DISSERTATION ON
VISUAL INSPECTION OF CERVIX AFTER APPLICATION OF ACETIC ACID AND LUGOL'S IODINE IN CERVICAL CANCER SCREENING

M.D. DEGREE EXAMINATION
BRANCH II – OBSTETRICS & GYNAECOLOGY
Stanley Medical College
Chennai

Dissertation Submitted to
THE TAMIL NADU Dr. M.G.R. MEDICAL UNIVERSITY
CHENNAI

MARCH 2009

CERTIFICATE

This is to certify that this dissertation entitled **"VISUAL INSPECTION OF CERVIX AFTER APPLICATION OF ACETIC ACID AND LUGOL'S IODINE IN CERVICAL CANCER SCREENING"** is a bonafide original work of **Dr.K.S.SRI DEEPA** Post Graduate Student (2006-2009) in the department of Obstetrics and Gynaecology, Stanley Medical College, Chennai in partial fulfilment of the regulations laid down by the Tamil Nadu Dr.M.G.R.Medical University, Chennai for M.D. (Branch II) Obstetrics and Gynaecology examination held in March 2009.

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ACKNOWLEDGEMENT

I express my sincere thanks to the Dean, Stanley Medical College, Chennai, **Dr.MOHANASUNDARAM, M.D., D.N.B., Ph.D.,** for permitting me to utilize all the resources at this hospital.

I express my sincere and heartfelt gratitude to **Prof. Dr.M.MOHANAMBAL, M.D., D.G.O.,** Superintendent, Government RSRM Hospital, for her encouragement, support and guidance during my study.

I also express my heartfelt deep sense of gratitude to **Prof.Dr.AMRITA PRICILLA NALINI, M.D., D.G.O.,** Deputy Superintendent, Government RSRM Hospital, for her constant encouragement, support, valuable comments and timely suggestions to shape this work.

I am extremely grateful to **Prof.Dr.P.SASIREKHA, M.D., D.G.O.,** Additional Professor of Obstetrics & Gynaecology, Government RSRM Hospital, for her encouragement, support and guidance during my study.

I am extremely grateful to **Prof.Dr.C.R.ANURADHA, M.D., D.G.O.,** Additional Professor of Obstetrics & Gynaecology, Government RSRM Hospital, for her constant encouragement, support, valuable comments and timely suggestions to shape this work.

I express my sincere and heartfelt gratitude to **Prof.Dr.C.K.RAJINI, M.D., D.G.O.,** Additional Professor of Obstetrics & Gynaecology, Government RSRM Hospital, for her guidance and valuable support.

I express my sincere and heartfelt gratitude to **Prof.N.HEPHZIBAH KIRUBAMANI, M.D., D.G.O., Ph.D.,** RMO Government RSRM Hospital for her guidance and valuable support throughout the course and the present study.

I express my sincere thanks to **Prof.Dr.A.SUNDARAM, M.D. Pathology.**, Professor and HOD

of Department of Pathology, Stanley Medical College for his valuable support to this study.

I am extremely grateful to **Dr. D.M. CHRISTE,** Research Medical Officer in ICMR, Government RSRM Hospital, for her constant encouragement, support and suggestions to shape this work.

Above all, I thank all my patients without them the study would not have been possible.

CONTENTS

INTRODUCTION

Worldwide, cervical cancer comprises 12% of all cancers in women and 2,31,000 women die of cervical cancer every year, over 80% of whom live in developing countries. South east Asia contributes about 25% of the total disease burden.

Cervical cancer is the most common genital tract cancer in Indian women with 1,26,000 new cases and 70,000 deaths each year. Incidence is higher than in Eastern Asia. Across India cervical cancer is the commonest cancer reported from all cancer registries except those in Mumbai & Delhi where breast cancer is the commonest.

Cervical cancer is a preventable disease because of its long preinvasive state of over 10 to 15 years, availability of various screening programmes, effective treatment for preinvasive lesions. World wide, successful cervical cancer prevention is based on an organized screening program. Cervical cytology is presently considered to be the only test known to reduce cervical cancer incidence in organized screening programs. The goal of periodic cervical cancer screening is to detect the preinvasive state of the disease and treat it appropriately before it progresses to cervical cancer. In developed countries initiation and sustenance of cervical cytology programs, involving screening of sexually active women yearly or once every 2-5 years have resulted in a large decline in cervical cancer incidence, mortality and morbidity there by saving women's life. However an organized screening program is difficult to implement in developing countries where resources are scarce.

Community based screening programs require a relatively sophisticated infrastructure, including highly trained personnel, adequately equipped laboratories and good referral systems to communicate the results of the test to the women. In view of these requirements, an alternative screening methods like VIA,VIAM,VILI is needed in developing countries with very limited resources and infrastructure because it is inexpensive, requires supplies usually locally obtainable and can be competently performed by non physician.

Prior to the use of pap smear and cytology based screening programs, health care providers relied on looking at the cervix to detect abnormalities. After 1950, cytology became the standard for cervical screening and the colposcope was used to further investigate the cervix. Unaided visual inspection (down staging) was evaluated by three cross sectional studies in India. Though the accuracy of down staging alone in the early detection of cervical carcinoma and precursor lesions was found to be inadequate, a combination of downstaging, VIA, VILI, VIAM as a cancer screening tool was very effective.

Pap smear, colposcopy and cervix biopsy are the other methods by which the cervix can be studied for the evidence of early malignant disease. These are out patient procedure and requires no anaesthesia.

The accuracy of detection and diagnosis may be increased by a systematic combination of the above screening procedures.

AIM OF THE STUDY

1. To do cervical cancer screening by VIA and VILI.
2. To determine the sensitivity and specificity of VIA, VILI.
3. To assess the reliability of VIA and VILI as a cancer screening tool in the detection of precancerous lesions of cervix by comparing its sensitivity and specificity with pap smear keeping colposcopy and colposcopy directed biopsy as reference standard.
4. To study the efficacy of combined screening programs.

MATERIALS AND METHODS

500 patients were selected from the Gynaecology OPD of Government R.S.R.M. lying in Hospital Chennai – 13, considering the following criteria.

INCLUSION CRITERIA

1. Women with history of sexual activity for more than three years with Intact uterus and cervix.
2. Non pregnant.
3. No past / present history suggestive of CIN / Cancer cervix.
4. No bleeding P/V at the time of examination.
5. Not had any treatment for cervical lesion (like Cryo, cautery,laser etc.)

EXCLUSION CRITERIA

1. Unmarried woman not exposed to sexual activity.
2. Pregnant women.
3. Women who have had therapy for cervical lesion.
4. Patient in periods / bleeding PV.
5. Previous colposcopy done.
6. Prior hysterectomy.
7. Obvious growth on cervix.

All 500 women were subjected to a questionnaire addressing clinical and epidemiological risk factors of cervical disease (eg. Socio economic class, age of marriage, parity, birth spacing, occupation, travelling jobs etc.). Then all women were subjected to down staging, pap smear, VIA,VILI and colposcopy. The decision to take a histological specimen was based upon the abnormal colposcopic findings and by grading (combined colposcopic index). Normal cervix by colposcopy was accepted as truly normal cervix.

DOWN STAGING

Materials - Sim's Speculum

Light Source

Sterile gloves

Examination table.

Patient was put in lithotomy position, speculum examination preceded bimanual pelvic examination in all cases to prevent.

1. Removal of desquamated epithelium from the surface of cervix.
2. The lubricant may disturb the discharge obtained for bacteriological and cytological study.
3. A bleed from surface lesion may prevent inspection.

PAP SMEAR

Materials

Cusco's bivalved self retaining speculum

Nulliparous	-	28 mm
Postmenopause	-	28 mm
Multiparous	-	36 mm

Light Source

Ayre's spatula

Endo cervical brush

Glass slide

Marker Pencil

Sterile glove

Fixative 95% ethanol / cytofix spray

SAMPLING AND PREPARATION METHODS

Patient Instructions

1. Schedule the examination, two weeks after the first day of last menstrual period – more specifically it is preferable to avoid examination during menses because blood may obscure significant findings.

2. Do not use vaginal medication, vaginal contraceptives or douches for 48 hours before the appointment.

3. Intercourse is not recommended the night before the appointment.

SPECIMEN COLLECTION

1. Specimen should be obtained after a non-lubricated speculum (moistened only with warm water if needed) is inserted, prior to vaginal examination to prevent removal of desquamated cervical cells thereby preventing false negative reports

2. Excess mucus or other discharge should be removed gently with ring forceps holding a folded gauze pad.

3. Sample should be obtained before the application of acetic acid or Lugol's iodine.

4. An optimal sample includes cells from the ectocervix and endocervix.

Patient was put in lithotomy position and a suitable sized Cusco's speculum was introduced without lubricant. The cervix was visualized with good light source. The cervical smear was taken with an Ayre's spatula rotating it through 360 degrees over the squamo columar junction. Sample from the endocervix was taken using endocervical brush rotated gently only one quarter turn. The smear should be applied and fixed over the slide marked with the pap smear number for that patient. Immediate fixation (within seconds) is critical in order to prevent air drying artifact which distorts the cells and hinders interpretation. It was then subjected to modified papanicolaou staining in the laboratory and studied. The fixed slides are transferred directly from the fixative into the following solutions:

1. 80% ethyl alcohol - 10 dips
2. 70% ethyl alcohol - 10 dips
3. 50% ethyl alcohol - 10 dips
4. Distilled water - 10dips
5. Harris haematoxylin - 3mts.

6. Running tap water	-	1mt.
7. HCl (0.5%)	-	5 dips
8. Again running tap water	-	1dip
9. 50% ethyl alcohol	-	10dips
10. 70% ethyl alcohol	-	10dips
11. 80% ethyl alcohol	-	10dips
12. 95% ethyl alcohol	-	10dips
13. Orange G6	-	1mt.
14. 90% ethyl alcohol	-	10dips
15. G.A 36	-	4mts.
16. 95% ethyl alcohol	-	10dips
17. Absolute alcohol	-	10dips
18. Xylene	-	3dips
19. Clear in Xylol	-	3dips

Slides are mounted with DPX.

Results: Nucleus – Blue colour

Cytoplasm of superficial cells – pink

Cytoplasm of intermediate cells – Bluish green

VISUAL INSPECTION WITH ACETIC ACID AND LUGOL'S IODINE

Materials

Private examination room

Examination table with stirrups

Good light source (100 Watts lamp)

Sterile cusco's speculum

Pair of gloves

Cotton swabs

Ring forceps

Plastic bucket with plastic bag

Preparation of 5% freshly prepared Acetic acid solution

5ml glacial acetic acid + 95ml distilled water.

Preparation of Lugol's Iodine

6gm potassium iodide + 100ml distilled water + 4gms of Iodine crystals.

Get informed consent about the procedure. Reassure patient that the procedure is painless. Ensure that patient is fully relaxed. Put the patient in modified lithotomy position. Introduce and fix unlubricated bivalved cusco's speculum under good light source. Down staging of cervix was done. Conventional pap smear was taken using Ayre's spatula and endocervical brush. Wash away excess mucus with saline soaked swab. Apply 3-5 % acetic acid on the cervix with cotton tipped applicator. Read after

1minute. Followed by the application of Lugol's Iodine.

Aceto whitening +	-	VIA Positive
No Aceto whitening	-	VIA Negative
Mahogany brown or black	-	VILI Negative
Mustard yellow or saffron coloured	-	VILI Positive

COLPOSCOPY

Materials

Colposcope

Bivalved Cusco's speculum

Cotton tipped swabs

Sterile glove

Normal saline

3% acetic acid

Lugol's Iodine

Examination table

With the patient in lithotomy position cervix exposed with bivalved Cusco's speculum and colposcope focused on external os at a distance of 20 cms. Cervix and vagina are gently cleaned with saline to remove mucus taking care not to provoke bleeding. Cervix inspected for lesions like leukoplakia , viral condylomata and carcinoma. Then a solution of 3-5 % acetic acid was applied over the cervix gently and liberally. The solution is mucolytic changes the colour and vascular pattern after an

interval of 10-30 seconds. Cervix inspected for colour, surface, columnar epithelium, transformation zone, squamo columnar junction and vascular pattern. The vascular pattern was again studied using a green filter. Schiller's Iodine test was done for patient with suspicious lesions.

The colposcopy findings were reported based on the terminology of 4th International Congress of cervical pathology and colposcopy in London 1981 and grading of atypical colposcopy appearances were done.

The special symbols for the different colposcopical patterns are used by the colposcopists to document the colposcopic findings which imitate as closely as possible the picture observed in the colposcope.

The two recording systems in Vogue are:

1. Odell diagram - colposcopic lesions may be represented in a circular diagram in relation to the OS.
2. Modified Hammond's graph of cervix.

It consists of 3 concentric circles with 12 radial lines in clockwise fashion. The innermost represents endocervix, intermediate one is the transformation zone and the outermost is the ectocervix. In this graph the colposcopic findings can be recorded accordingly. Exact location of the specific lesions can thus be documented.

Biopsy Cervix

Materials

Sterile glove

Vulsellum

Sim's Speculum

Light source

Tischler biopsy forceps

Container

10% formalin

The management of abnormal lesion was finally dependent upon the histopathological diagnosis. Biopsies were taken from the iodine negative areas or areas of atypical colposcopic findings.

Techniques

1. Punch biopsy
2. Excision biopsy
3. Wedge biopsy
4. Diathermy loop biopsy
5. Curettage
6. Conization

The specimens were put in 10% formalin and sent to pathology lab, where paraffin block of tissue were made, sectioned, stained with eosin, haematoxylin and examined under microscope for evidence of dysplasia or malignancy.

REVIEW OF LITERATURE

In 1851, Robert Hull marvelled that with the introduction of the vaginal speculum a veritable epidemic of uterine disease had appeared.

The existence of a preinvasive stage in the development of cervical cancer has been known since Sir John Williams in the Harverian lectures in 1886 presented a use of symptomless cancer cervix which is now known as carcinoma in situ.

In 1910 Rubin described non-invasive change at the margins of invasive carcinoma then came the word carcinoma in situ.

Hinselmann from Germany first published an account of colposcopy in 1925. It has become possible to observe cancer at its very earliest stage, by finding changes in the cervix which are invisible to the naked eye. He also combined colposcopy with acetic acid application.

The Schillers test invented in 1928 because of its simplicity has been in widespread use to distinguish between normal and abnormal epithelium of portio vaginalis of the cervix.

Despite the introduction of colposcope and Schiller's iodine test, it was not until Papanicolaou and Traut described a simple technique of cytology in 1945. The Clinicians recognized that at last they have an effective and simple way of detecting premalignant lesions of cervix.

The concept of preinvasive disease of cervix was introduced in 1947. Boyes and Worth (1979) declared that introduction of cytologic screening for cancer cervix in developed countries has resulted in considerable reduction in morbidity and mortality from the disease, when compared to developing countries like India that don't have mass

cytologic screening. In this context down staging was introduced there by emphasizing the value of speculum examination than no screening at all.

Frisch LE et al (1995) showed that combination of cytologic screening and naked – eye inspection of the cervix (NIC) increased the screening yield as compared with a Pap smear alone but with some loss of positive predictive value. NIC significantly improved the predictive value of negative cytologic screening results (1).

Belinson JL et al (2002) showed that the sensitivity of visual inspection equaled or exceeded reported rates for conventional cervical cytology. Visual inspection and colposcopy have similar specificity profiles for CIN II and greater (2).

Mandelblatt JS et al (2002) concluded that well organized screening programs can reduce the cervical cancer mortality in less-developed countries at low costs (3).

Tayyeb R et al (2003) concluded that higher sensitivity, accuracy, low cost, easy applicability and immediate results make VIA, a useful screening test in developing countries as compared to pap smear (4).

Basu PS et al (2003) by conducting a study in kolkata concluded that VIA and VIAM had significantly higher sensitivity than cytology but the specificity of cytology was higher than that of VIA and VIAM (5).

Ferreccio C et al (2003) showed that as a single test, either liquid – based cytology or HPV DNA testing was significantly more accurate than conventional cytology or cervicography. Paired tests incorporating either liquid – based cytology or HPV DNA testing were not substantially more accurate than either of those two test strategies alone. However a possibly useful synergy was observed between the conventional smear and cervicography (6).

Sankaranarayanan R et al (2003) showed that VIA and VILI are suitable atternate screening tests to cytology for detecting cervical neoplasia in low resource settings (7).

Bhatla N et al (2004) showed that visual inspection can be performed reliably by trained paramedical workers and doctors and is an effective screening options in low resource settings (8).

Denny L et al (2004) concluded that DVI is a low cost, simple primary screening test in low resource settings (9).

Sankaranarayanan R et al (2004) by conducting cross – sectional studies in Mumbai and Kolkata concluded that low level magnification (2-4 x) did not improve the test performance of naked eye visualization of acetic acid impregnated uterine cervix (10).

Ghaemmaghami F et al (2004) concluded that the sensitivity and specificity of VIA is high and comparable with that of cytology. Hence VIA can be undertaken as a feasible method of screening in cervical cancer in countries where access to cytopathology is limited (11).

Sankaranarayanan R et al (2004) showed that VILI had a significantly higher sensitivity than VIA in detecting HSIL, but specificity was similar. VILI appears to be a more accurate visual test for use in screening and treatment programs in low – resource settings (12).

Winkler JL et al (2005) conducted a study in Rural Mexico and showed that i) VIAM is more sensitive but less specific than VIA.

ii) Training of clinical personnel in visual inspection is critical to improve the effectiveness of these screening methods (13).

Derchain SF et al (2005) concluded that VIA and Hybrid capture II (HC II) contributed to the screening of cervical neoplasia in a group of Brazilian women, but the cost effectiveness of conjoint screening modalities is still debatable (14).

De Vuyst H et al (2005) showed that the pap smear had the highest specificity (94.6%) and HPV testing the highest sensitivity (94.4%). The visual methods, VIA and cervicography, were similar and showed an accuracy in between the former two tests (15).

Wu S et al (2005) showed that DNA hybridization assay (HPV) is the best choice in primary screening if available. Screening should begin at the age of 20 years (16).

Shastri SS et al (2005) showed that visual tests are promising in low – resource settings like India. The use of both VIA and VILI may be considered where good quality cytology or HPV testing are not feasible. The sensitivity of cytology and HPV testing increased significantly when combined with VIA and VILI (17).

LAMS (Latin American Screening Study) (2005) compared PAP smear, Aided visual inspection, Colposcopy, Cervicography and HPV testing as an optional screening tests in Latin America. This study concluded that variation in cervical cancer incidence is due to i) different natural history of the precursor lesions, or ii) Due to different levels of exposure to the known risk factors (18).

Valdespino VM et al (2006) showed the papanicolaou test is the best method of screening in high resource settings. Visual inspection using cervical dyes is more useful method in low resource settings. The challenge for the future is more dependent on local finances and screening policies (19).

Elit L et al (2006) concluded that VIA has an acceptable test parameter for

population based – cervical screening in Mongolia compared to cervical cytology (20).

In study by Denny L et al (2006) organized and quality assured cytology – based screening programs have substantially reduced cervical cancer incidence in many developed countries. However, there are considerable barriers to setting up cytology – based screening programs, particularly in developing countries. This has stimulated the search for novel and alternate approaches to cytology for cervical cancer prevention. These approaches generally perform as well as cytology, but have lower specificity resulting in higher false positive rates (21).

Sangwa – Lugoma G et al (2006) showed that VIA and VILI, performed by nurses and physicians are slightly more sensitive but less specific than Pap cytology. Given their lower cost and easy deployment, visual inspection methods merit further assessment as cervical cancer screening methods for low resource countries (22).

Sodhani P et al (2006) concluded that VIA, VIAM can be used as a mass screening tool for cervical cancer in resource poor settings due to greater sensitivity (23).

Muwonge R et al (2007), studied the gain in diagnostic performance when two visual inspection methods were combined and showed that settings already using VIA would advocate combined testing and for settings using VILI to opt for the single test due to greater sensitivity of VILI (91.5%) alone and combined testing (92.9%) compared to VIA alone (81.3%) (24).

Arbyn M et al (2008) showed that liquid based cervical cytology is neither more sensitive nor more specific for detection of high grade CIN compared with the conventional pap test (25).

Dhaubhadel P et al (2008) showed that VIA as a screening test for cervical

neoplasia did not miss any lesion detected by pap smear and confirmed by cervical biopsy (26).

El – Shalakany AH et al (2008) showed that VILI in feasible, easy to perform with superior sensitivity to cervical cytology and VIA in detecting cervical premalignant and malignant lesions. VILI can be used as an efficient primary screening tool with a satisfactory low biopsy rate in low resource setting (27).

Jun JK et al (2008) showed that women with a normal or benign pap smear had a statistically significantly lower risk of invasive cervical cancer and CIS of cervix compared with those never screened and also that regular screening of cervical cancer reduces invasive cervical cancer incidence and CIS of the cervix among Korean women (28).

Davis – Dao CA et al (2008) showed that women with cervicitis were twice as likely to have a positive VIA result as women without cervicitis. Presence of cervicitis may influence the accuracy of results obtained from colposcopy and VIA (29).

In study by Arbyn M et al (2008) five screening methods VIA, VILI, VIAM, Pap smear, HPV testing with the high risk probe of Hybrid capture -2 assay, were evaluated in 11 studies in India and Africa in women aged 25 -64 years. Verification was based on colposcopy and colposcopy directed biopsy. Negative colposcopy was accepted as truly negative outcome (30). In this study

VIA showed sensitivity of 79% and 83% specificity of 85% and 84% for CIN 2 + and CIN 3+ lesions respectively.

VILI – 10% more sensitive and equally effective.

VIAM – Similar results as VIA.

Pap smear showed lowest sensitivity 57% with high specificity 93% for CIN 2 lesion.

HC-2 showed sensitivity of 62% and specificity of 94% for CIN II lesion.

In study by Sankaranarayanan R et al (2008) cryotherapy and large loop excision of the transformation zone are effective and safe treatment methods for cervical intraepithelial neoplasia. The clinical stage of cancer is the single most important prognostic factor and should be carefully evaluated in choosing optimal treatment between surgery and radiotherapy, with or without chemotherapy (31).

HISTOLOGY OF VAGINA AND CERVIX

The wall of vagina is made up of outer fibrous layer in criss cross special fashion and subepithelial connective tissue (elastic) on which the stratified squamous epithelium rest. The epithelium also covers that part of the cervix which projects into the vagina known as ectocervix. The squamous epithelium in a sexually matured woman has four layer of cells.

Basal

Parabasal

Intermediate

Superficial

EPITHELIUM OF CERVIX

Endocervix – the epithelium is tall columnar type with basal solid nucleus. They are thrown into folds and ciliated by but not in the crypts and glands. Beneath this layer are cubical basal or the reserve cells from which new surface cells are believed to develop and which undergo squamous metaplasia.

Ectocervix – Epithelium of portio vaginalis is stratified squamous epithelium although sub-epithelial papillae are less marked and may be absent.

Squamo-columnar Junction - The point were the stratified squamous epithelium meets the glandular epithelium is termed as the squamo-columnar junction. It's normally situated at the external OS. There is abrupt change in cellular type here.

Transformation Zone – Extends from original squamo columnar junction to active squamo columnar junction

ANATOMIC ZONE

1. Portio Vaginalis which lies beyond the external os lined by stratified squamous epithelium.
2. Endocervix bounded by Internal os and External os.

HISTOLOGICAL ZONE

Histological Portio

Cervical stroma without glands lined by squamous epithelium.

Transitional Zone

Originally covered by columnar epithelium gradually transformed to squamous epithelium.

Endocervix

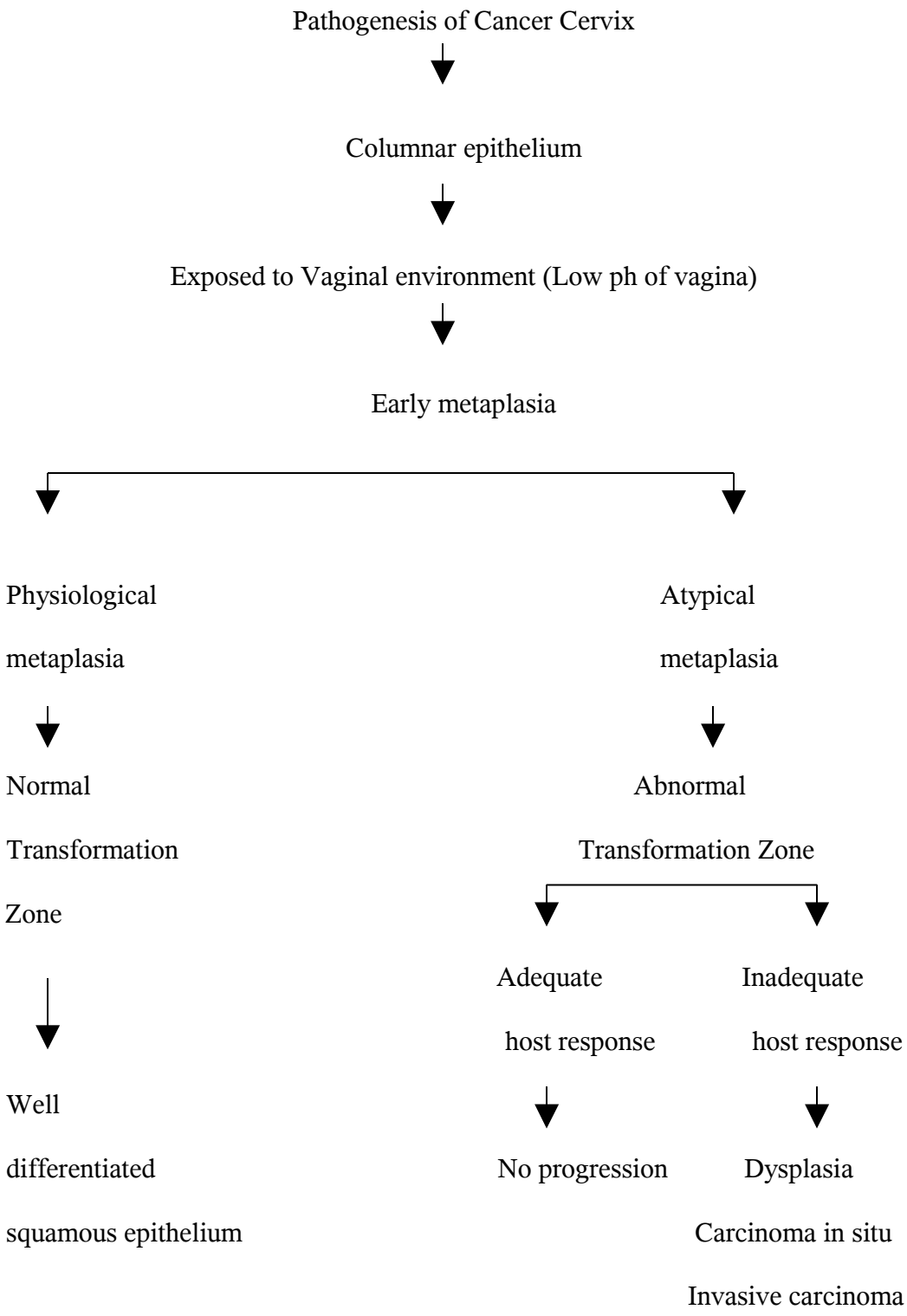
Endocervix consists of stroma, glandular epithelium and columnar cells.

HISTOGENESIS OF TRANSITIONAL ZONE

SITES

- Basal cells of Portio epithelium
- Basal cells of Portio epithelium at the margin of old erosion
- Basal cells of squamous epithelium
- Sub cylindrical cells of endocervix adjacent to histological portio.

STAFL MATTINGLY REF AMERICAN JOURNAL OF OBST AND GYN 1974



GOVAN'S CLASSIFICATION OF CERVICAL LESIONS

BENIGN

Squamous hyperplasia

Reactive hyperplasia

Basal cell hyperplasia

Reserve cell proliferation

Metaplaia

1. Complete
2. Incomplete

MALIGNANT

Cervical intra epithelial neoplasia

Mild dysplasia

Moderate dysplasia

Severe dysplasia

Micro invasive carcinoma

Invasive carcinoma

METHODS OF EARLY DIAGNOSIS OF CERVICAL LESIONS

DOWN STAGING IN MASS SCREENING

Naked eye visualization of the cervix without acetic acid nor magnification to identify early stages of cancer. Also known as unaided visual inspection.

In visual Inspection of cervix following are noted :

- Colour, surface, contour of cervix
- Healthy / Unhealthy cervix
- Cervical polyp
- Ectropion
- Leukoplakia / condyloma
- Cervical warts
- Nabothian follicle
- Old scars
- Bleeds on touch, stippled cervix
- Hypertrophied elongated irregular edematous cervix
- Hard indurated cervix
- Bleeding cervical erosion
- Suspected growth / ulcer

Rural health workers are taught to conduct speculum examination for all women at reproductive age group irrespective of their complaints.

DRAW BACK OF DOWN STAGGING

Lesions are not detected early enough to prevent invasion, because a large proportion of the cancers detected are relatively advanced, requiring complex medical therapy that is difficult to provide in many settings.

VISUAL INSPECTION WITH ACETIC ACID (VIA)

VIA was first described by ottaviano and La Torre in 1981

Naked eye visualization of uterine cervix without magnification after application of diluted 3-5 % acetic acid solution to screen for cervical abnormalities. Also known as Cervicoscopy or Direct visual inspection.

MAGNIFIED VISUAL INSPECTION AFTER APPLICATION OF ACETIC ACID (VIAM)

Visualization of uterine cervix using low power maginification after application of 3-5% acetic acid is known as VIAM. Also known as Gynoscopy or Aided visual inspection.

VISUAL INSPECTION WITH LUGOL'S IODINE (VILI)

Visualization of uterine cervix after application of Lugol's iodine

MOLECULAR BASIS OF VIA

Acetic acid causes dehydration of cells and surface coagulation of cellular proteins thereby reducing the transparency of cervical epithelium. These changes are more pronounced in abnormal epithelium due to greater nuclear density and consequent higher concentration of proteins enabling much earlier detection and treatment of pre cancerous lesions.

Acetowhitening can be due to - CIN

Invasive carcinoma

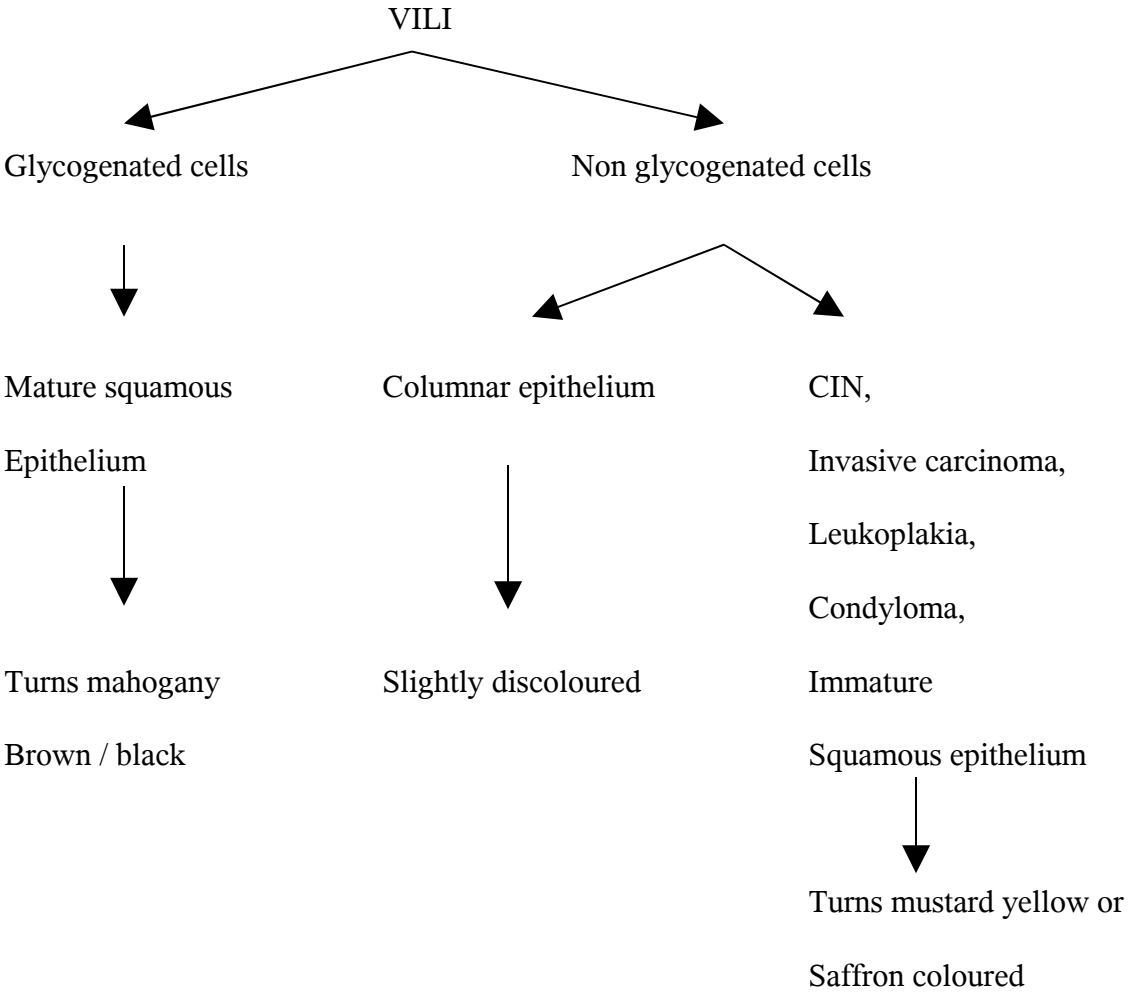
Immature squamous metaplasia

Healing and regenerating epithelium

Leukoplakia, condyloma

PATHOPHYSIOLOGICAL BASIS OF VILI

Iodine is glycophilic



ADVANTAGES OF VIA AND VILI

1. Simple, easy to learn and perform
2. Inexpensive
3. Minimal requirement of infrastructure and equipment
4. Immediate results
5. High sensitivity
6. Preliminary screening of high risk cases for referral
7. Can be competently performed by trained paramedical workers with proper training
8. Potential for integration into PHC services
9. Requires one visit
10. Decreased loss to follow up.

DISADVANTAGES OF VIA AND VILI

1. Moderate specificity – resulting in higher referral and potential over treatment in a single visit approach.
2. Dependence on person doing the evaluation (subjective)
3. Need for standard training mehods and quality assurance.
4. Lower accuracy in postmenopausal women, because transformation zone recedes into the cervical canal at menopause.

IARC CRITERIA FOR INTERPRETATION OF VIA AND VILI

VIA Positive

- Well defined, sharp, distinct, dense acetowhite areas with or without raised margins, abutting the squamo-columnar junction in the transformation zone
- Strikingly dense acetowhite area in the columnar epithelium
- Condyloma and leukoplakia occurring closer to the squamo-columnar junction turning intensely white after application of acetic acid

VIA Negative

- No acetowhite lesions on the cervix
- Polyps protruding from the cervix with bluish-white acetowhite areas
- Nabothian cysts appearing as button-like areas / whitish acne, or pimples
- Faint line-like or ill-defined acetowhitening at squamocolumnar junction
- Shiny, pinkish-white, cloudy-white, faint patchy, or doubtful lesions with ill-defined, indefinite margins, blending with the rest of the cervix
- Angular, irregular, digitating, acetowhite lesions resembling geographical regions far away from the transformation zone (satellite lesions)
- Ill – defined, patchy, pale acetowhite areas in the inflamed, unhealthy, ulcerated cervix with bleeding and mucopurulent discharge
- Streak –like acetowhitening in the columnar epithelium
- Red spots on cervix against pinkish white background after applying

acetic acid

- Dot-like areas in the endocervix, which are due to grape-like columnar epithelium staining with acetic acid

VILI Positive

- Dense, thick, bright, mustard-yellow or saffron yellow iodine non- uptake areas abutting the squamo-columnar junction in the transformation zone

VILI Negative

- Normal cervix where squamous epithelium turns mahogany brown or black and the columnar epithelium does not change colour; no yellow areas seen;
- In ectropion, when an extensive area of columnar epithelium with regular margins on the ectocervix remains without colour change
- Patchy, indistinct, ill-defined, colourless or partially brown areas are seen in the cervix
- Non- or partial-iodine uptake, pale areas corresponding to pre-existing nabothian follicles and /or polyps are seen
- Stippling or leopard skin appearance associated with T. vaginalis infection
- When pepper-like non-iodine uptake areas seen in the squamous epithelium far away from the squamo-columnar junction
- When satellite, thin, yellow, non-iodine uptake areas with angular, or digitating margins resembling geographical areas are seen far away from

the squamo-columnar junction.

OTHER VISUAL INSPECTION APPROACHES

CERVICOGRAPHY

Cervicography entails photographing the cervix after application of 3-5% diluted acetic acid, with a uniquely designed camera. The photographs called Cervigrams, are viewed as projected slides by colposcopists trained in their interpretation. It is useful when a colposcopist is not available for spot evaluation.

SPECULOSCOPY

Speculoscopy is a technique where acetic acid is applied to the cervix, but a chemical or chemiluminescent light-source and magnifying lens are used to visualize the acetowhite lesions of the cervix.

PAP SMEAR (SURFACE BIOPSY)

Dr. George N. Papanicolaou in 1928 reported malignant cells from the cervix in vaginal smear taken from vagina using pipette ("Exfoliative cervical cytology").

Dr. Herbert Trait (Gynaecologist) helped Papanicolaou by providing clinical samples.

Dr. J. Ernest Ayre (Canadian Gynaecologist) took smear from the cervix using wooden spatula.

Pap is the screening test that detects 98% of cancer cervix and 70% endometrial cancer (shaw text book).

False positive result is reported in the presence of infection.

Types of Pap Smear

1. Conventional smear
2. Liquid based preparation
    - Thin prep
    - Sure path
3. Auto pap screening system

REPORTING SYSTEM

Papanicolaou Class System (1943)

I - Normal cells

II - Slightly abnormal, suggestive of inflammatory change, repeat smear after treating the infection

III - A more serious type of abnormality, usually indicative of the need for biopsy

IV - Distinctly abnormal, possibly malignant and definitely requiring biopsy

V - Malignant cells seen

WHO	CIN	BETHESEDA (III) 2001
Negative	Negative	With in normal limits
Atypical squamous cells	Inflammatory	Inflammatory - infection - reactive / reparative changes ASCUS (Atypical squamous cell of undetermined significance)
Mild dysplasia	CIN I	Low grade squamous intraepithelial lesion (LSIL)
Moderate dysplasia Severe dysplasia Carcinoma in situ	CIN II CIN III	High grade squamous intraepithelial lesion (HSIL)
Invasive Carcinoma	Invasive Carcinoma	Invasive Carcinoma

I - Normal pap smear

- Basal layer cells (small rounded basophilic with large nuclei)
- Middle layer cells (squamous cells, transparent, basophilic with vesicular nuclei)
- Superficial layer cells (acidophilic with pyknotic nuclei)

Nuclear cytoplasmic ratio is increased in malignant cells.

II – Cervical Intraepithelial Neoplasia

CIN I

Mild dysplasia, undifferentiated cells involving the lower 1/3 of epithelium. Smears have predominantly superficial and intermediate cells with few dysplastic cells.

CIN II

Moderate dysplasia, undifferentiated cells occupying the lower and middle third layer and smear have cells intermediate between CIN I and CIN III.

CIN III

Severe dysplasia, undifferentiated cells almost reaches the surface except a few mature cells in the superficial layer. Smears have predominantly dysplatic cells with very few superficial cells.

CIS

The entire thickness is replaced by undifferentiated cells with no mature superficial cells. Basement membrane is intact without any breach.

IN SMEAR IT HAS TWO CLASSICAL TYPE

1. Undifferentiated type

Have syncytial sheets with poorly defined outline. Indistinct or absent intercellular border. Cyanophilic cytoplasm with gauge like texture. Closely packed nuclei with no cytoplasm. Nuclear chromatin is irregular in distribution and increased in amount finely stippled and condensed into coarse aggregates.

2. Malignant parabasal cells

Discrete round or oval have a disproportionately large hyperchromatic nuclei with coarse condensed chromatin. Degenerative changes seen.

III – Invasive Squamous Cell Carcinoma

1. Well differentiated

Pleomorphic tad pole with bulbous head and long tail and contain keratin.

2. Moderately differentiated

Recognizable squamous cells with intercellular bridges but without keratin. Pleomorphic cells with considerable variation in size and shape.

3. Undifferentiated

Small and immature nuclei, large oval or spindle shaped and in syncitial sheets smaller than in carcinoma in situ.

Adenocarcinoma

The cytoplasm tend to be abundant and textured frequently blue lavender tinge more granular and vacuolated. Nuclei and nucleoli are always present and may be multiple. The non secreting cells show increased nuclear cytoplasmic ratio.

FEATURES VARIATIONS WITH INCREASING SEVERITY OF DYPLASIA

Decrease	Increase	Varies
Cellular cohesion	Mitosis	Nuclear hypertrophy
Amount of cytoplasm	Nuclear/ cytoplasmic ratio	Antisokaryosis
Multinucleation	Anisochromatosis	Hyperchromatism
Degree of maturation	Nuclear membrane irregularities	Nucleoli

ICMR New Delhi (women more than 30 years) reported 5 to 15 smears to be abnormal per 1000 women.

AIMS reported 16 smears to the abnormal per 1000 women

Reference. Shaw's text book of gynaecology

SCREENING GUIDELINES

Guidelines	American Cancer Society	ACOG
Initial screening	Age 21 or 3 years after vaginal sex	Age 21 or 3 years after vaginal sex
Interval	-Every year for conventional pap -Every 2 years for liquid based pap -Every 2-3 years after age 30 with 3 consecutives normal	-Every year for either liquid based pap or conventional pap -Every 2-3 years after age 30 with 3 consecutives normal
Discontinue	Age 70 if 3 consecutives normal in 10 years	No upper limit of age

IARC SCREENING GUIDELINES

- An organized screening programme should cover women aged 25-65 years.
- IARC advises that annual screening smears are unnecessary even with conventional cytology.
- Screening of women less than 25 years of age offers minimal benefit.
- For woman 25 – 49 years of age three yearly pap smears are recommended, five yearly where resources are limited.
- Five yearly smears from 50-65 years of age are recommended.
- Screening can cease after 65 years of age provided there are no suspicious results in the previous two tests.

PROGRESSION OF CIN TO CIS AND INVASIVE CARCINOMA

ASCUS – 10 – 20% risk of CIN I

3 – 5% risk of CIN II and III

LSIL (CIN I)

- Undergoes spontaneous regression in 60 – 85% of cases within 2 years of follow up with cytology and colposcopy.
- 25% risk of CIN II and CIN III with in two years.
- if lesions progresses during follow up or persist at two years treat with ablation therapy.

HSIL (CIN II and III)

- Do colposcopic directed biopsy. If biopsy positive for HSIL, do Large Loop Electrosurgical Excision Procedure (LEEP).
- CIN II and III progresses to CIS in 20% of the cases, invasive carcinoma in 5% of the cases.

CIS – Progresses to invasive carcinoma in 5% of the cases

Reference. Novak's Text book of Gynaecology

COLPOSCOPY

In 1925, Hinselman in Germany devised the first colposcope from which the modern day instruments have evolved. These are binocular instruments giving a stereoscopic magnification of 10-20 times.

Indication for Colposcopy

1. Abnormal pap smear cytology
2. To locate abnormal areas
3. To obtain directed biopsy
4. Conservative therapy under colposcopic guidance
5. Follow up of cases treated conservatively

COLPOSCOPIC FINDINGS

I Normal Colposcopic findings:

1. Normal Squamous Epithelium

- Smooth, pink, uniform, featureless epithelium
- Stains Positively for glycogen

2. Columnar Epithelium

- Appear as villi with capillary loops and covered by mucus. After application of acetic acid it has a typical grape like appearance.

3. Normal Trasformation Zone

Components of transformation Zone may be islands of columnar epithelium surrounded by metaplastic squamous epithelium, gland openings, and nabothian cysts.

Stromal vessel have a characteristic tree like branching pattern.

II. ABNORMAL COLPOSCOPIC FINDINGS

A. Atypical Transformation Zone

1. Leucoplakia

White epithelium that is present before the application of acetic acid. Caused by a layer of keratin on the surface of the epithelium.

2. Acetowhite Epithelium

Seen after application of acetic acid. Metaplastic and dysplastic epithelium appear as white or grayish white due to increased cellular nuclear density. Normal cells appear pink.

3. Iodine Negative Epithelium

Doesn’t stain with Lugol’s or Schiller’s Iodine. Normal native squamous epithelium stains brown.

4. Punctation

Punctation may be seen within the acetowhite areas. These are the terminal ends of dilated capillaries.

5. Mosaic

Terminal capillaries may surround circular or polygonal area of acetowhite epithelium to give the appearance of mosaic.

6. Atypical Vessels

There is gross variation in caliber and course with bizarre irregular branching, sometimes appearing as commas, corkscrews or spaghetti like forms.

B. SUSPECT INVASIVE CARCINOMA

1. Irregular surface contour with loss of surface epithelium.
2. colour tone changes to yellow orange rather than the expected pink of intact squamous epithelium and red of endocervical epithelium.
3. Abnormal blood vessels
    - Abnormal looped vessels are the most common colposcopic findings and arise from the punctated and mosaic vessels present in CIN.
    - Abnormal branching vessels tend to form obtuse or right angles with caliber sometimes enlarging after branching **.**
    - Abnormal reticular vessels represent the terminal capillaries of the cervical epithelium.

III. UNSATISFACTORY COLPOSCOPIC FINDINGS

If the entire squamocolumnar junction is not visible it's judged unsatisfactory.

IV. MISCELLANEOUS COLPOSCOPIC FINDINGS

Seen in inflammations, atrophic changes, true erosion, condyloma and papilloma. They are not related to cervical neoplasia and are present both in the transformation zone and in original squamous epithelium.

COLPOSCOPIC GRADING

BASED ON COPPLESON AND REID

1. Grade I (insignificant, not suspicious)

Flat white epithelium, fine caliber and regular vessels with small inter capillary distance – Normal epithelium to minor dysplasia.

2. Grade II (significant, suspicious)

Flat, white epithelium, vessels with dilated caliber and regular shape absence of atypical vessels and increased inter capillary distance – moderate dysplasia to carcinoma in situ.

3. Grade III (Highly significant, highly suspicious)

Markedly white epithelium irregularly shaped and dilated vessels with variable intercapillary distance and irregular surface – carcinoma in situ to early invasive carcinoma.

Reid Scalzi Score

Based on four colposcopic signs

- Margin
- Colour
- Vessels
- Iodine test

Score 0-2 – CIN I

3-5 – CIN I to II

6-8 – CIN II to III

COLPOMICROSCOPY

Magnification is 100 – 300 times. Looks at the structure at the cellular level. Interpretation is not very easy hence its lack of popularity.

BIOPSY CERVIX

Indication for Biopsy

1. All cases of leukoplakia even in the presence of negative smear
2. Lesions of squamous epithelium which whiten after acetic acid application.
3. All other abnormal lesions including those which are difficult to interpret at colposcopy.

In the presence of obvious cervical lesions punch biopsy or wedge biopsy may be taken.

Colposcopic directed biopsy is more specific and avoids lot of false negative biopsies.

Indications for Cone Biopsy

1. When the area of abnormality is large.
2. When the squamo columnar junction is not visible completely on colposcopy.
3. When the inner margin of the lesion has receded into the cervical canal.
4. When there is discrepancy between colposcopy, cytology and biopsy.
5. Endocervical curettings positive for CIN II or III.
6. Colposcopically directed biopsy positive for micro invasion.
7. Colposcopy is unable to rule out invasive cancer.

Complications of Cone Biopsy

Bleeding, infection, cervical stenosis and incompetance.

NEWER TECHNIQUE

HPV DETECTION

By

1. Cytology (pap smear)
2. Histology
3. Electron microscopy
4. Immuno histochemistry (Identification of group specific antigen)
5. Molecular test
    a. Insitu hybridization
    b. Dot blot test
    c. By amplification of viral DNA
        I. Target amplification (PCR)
        II. Signal amplification (hybrid capture II)
6. Serology (Detection of viral capsid proteins)

EPIDEMIOLOGY, AETIOLOGY, RISK FACTOR OF CANCER CERVIX

1. Coitus before 18 years of age.
2. Multiple sexual partners.
3. Delivery of first baby before 20 years.
4. Multi parity with poor birth spacing between pregnancies.
5. Poor personal hygiene.
6. Poor socio economic status.
7. Smoking, alcohol, drug abuse.
8. History of sexually transmitted diseases, TB, HIV, HPV, HSV2, condyloma.
9. Immuno suppressed.
10. OC pills intake.
11. History of prior genital tract dysplasia.
12. Women who do not come for regular health check up / lack of prior pap smear screening.

The two Canadian task forces considered that the adult female population can be classified into two groups.

1. Group that is not at risk and should not be included in the screening program for cancer cervix comprising.
   - Women who had never been sexually active.
   - Women over 60 who had been screened in the past and had no atypia in their smears.
   - Women who had a hysterectomy for benign disease with complete removal of cervical epithelium.

2. The group at risk for cancer cervix (ie.) women over 18 years and under 60 years who are or have been sexually active.

RESULTS

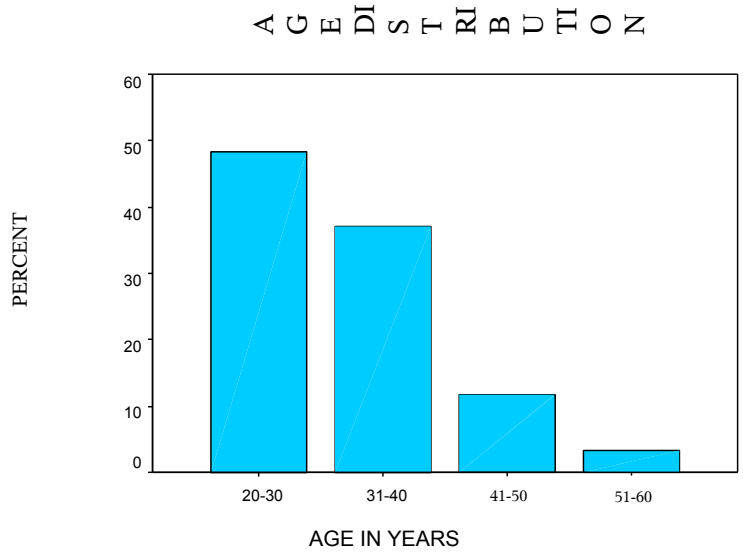
The study was conducted on 500 women attending the Gynaecology OPD of GOVERNMENT RSRM LYING IN HOSPITAL CHENNAI – 13 for a period of two years (2006-08). A detailed history was taken. General examination and vital signs assessment was done. All 500 women were subjected to down staging, pap smear, VIA,VILI, and colposcopic examination. Colposcopy directed biopsy was taken in women with abnormal colposcopic findings and the results were tabulated as follows.

AGE DISTRIBUTION

TABLE – 1

Age group	No. of Women	Percentage
20 – 30 years	241	48.2%
31 – 40 years	185	37%
41 – 50 years	58	11.6%
51 – 60 years	16	3.2%

85.2% of the women in the study group were aged between 20 – 40 years.



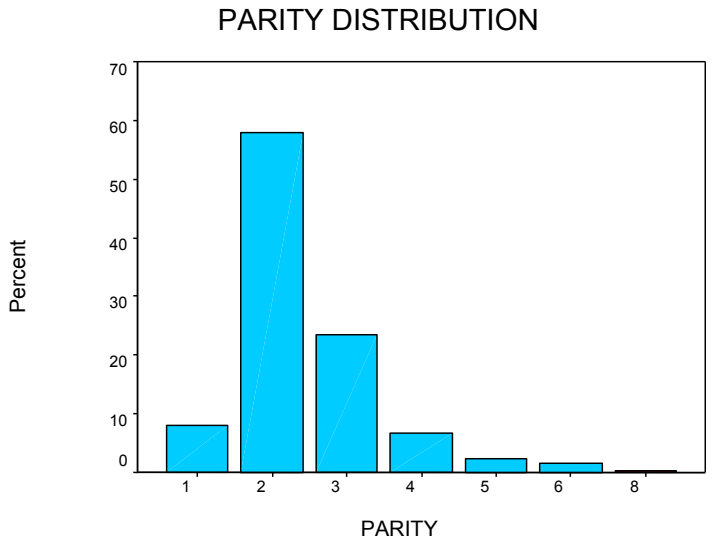
PARITY DISTRIBUTION

TABLE- 2

Parity	No. of Women	Percentage
1	40	8%
2	290	58%
3	117	23.4%
4	33	6.6%
5	11	2.2%
6	8	1.6%
8	1	0.2%

88% of the women in the study group belong to para 2 – 4.

Though the incidence of unhealthy cervix was similar to healthy cervix in para 2 – 4, number of women with unhealthy cervix was considerably lower in para 1 and considerably higher in para 4.

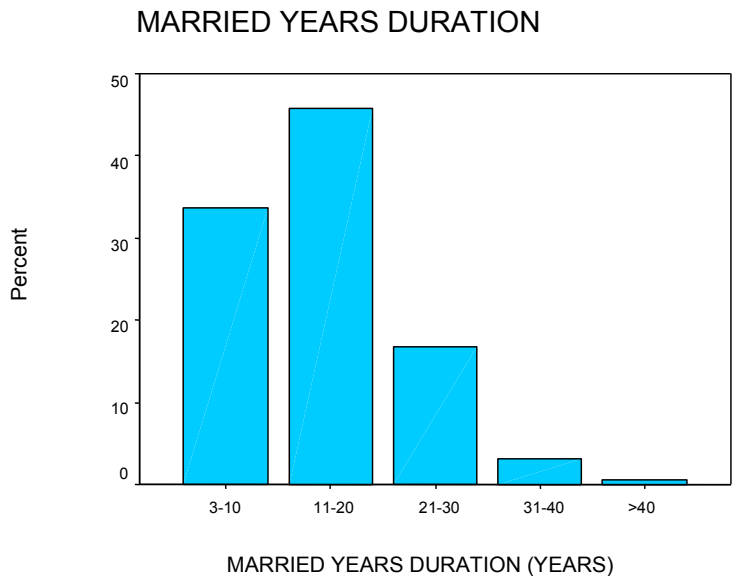


MARRIED YEARS DURATION

TABLE-3

Married Years Duration	No. of Women	Percentage
03 – 10	168	33.6%
11 – 20	229	45.8%
21 – 30	84	16.8%
31 – 40	16	3.2%
> 40	03	0.6%

Mean married years duration in the study group was 15.28 years.

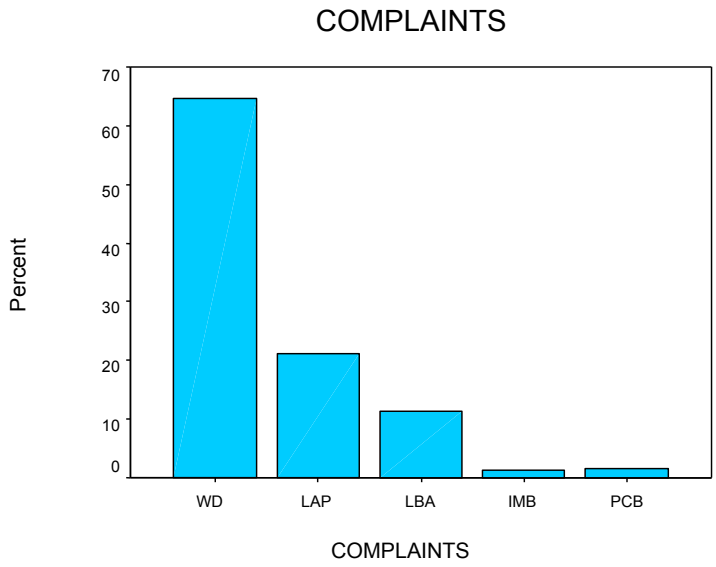


COMPLAINTS

TABLE-4

Complaints	No. of Women	Percentage
White Discharge	323	64.6%
Lower Abdominal Pain	105	21%
Low Backache	57	11.4%
Intermenstrual Bleed	07	1.4%
Post Coital Bleed	08	1.6%

Most of the women presented with complaints of persistent white discharge per vaginum.

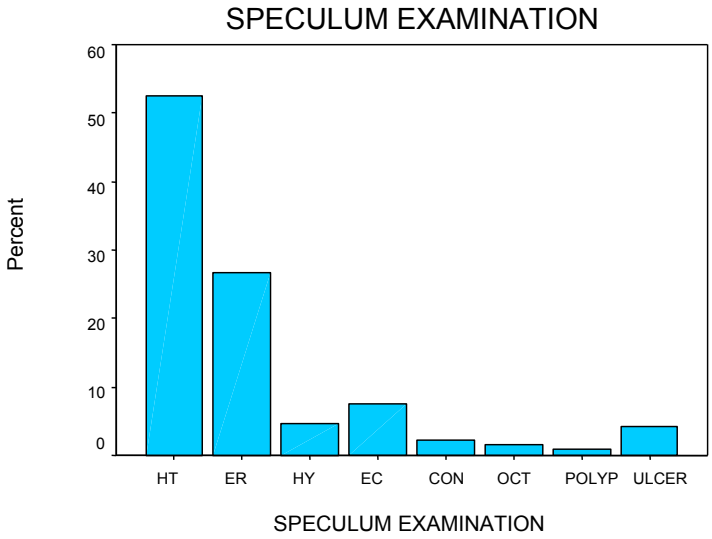


DOWN STAGING OF CERVIX

TABLE-5

Down Staging of Cervix	No. of women	Percentage
Healthy Cervix	263	52.6%
Unhealthy Cervix		
1. Erosion	133	26.6%
2. Hypertrophy	37	7.4%
3. Ectropion	23	4.6%
4. Congestion	21	4.2%
5. Old Cervical Tear	11	2.2%
6. Polyp	8	1.6%
7. Ulcer	4	0.8%

In speculum examination 263 women had healthy cervix and 237 women had unhealthy cervix of which erosion cervix is the commonest.



RESULTS OF VIA

TABLE-6

VIA	Biopsy Positive for CIN/CA Cervix	Biopsy Negative for CIN/CA Cervix	Total
Positive	64	70	**134**
Negative	23	343	**366**
Total	**87**	**413**	**500**

VIA was positive in 134 women, negative in 366 women. VIA was positive in 64 women with biopsy report positive for CIN/CA Cervix and 70 women with biopsy report negative for CIN/CA Cervix. VIA was negative in 23 women with biopsy report positive for CIN/CA Cervix and 343 women with biopsy report negative for CIN/CA Cervix.

VIA vs BIOPSY

TABLE-7

Biopsy	**VIA Positive**	**VIA Negative**
CIN I	34	18
CIN II	16	05
CIN III	07	-
Squamous Cell Carcinoma	07	-
Total	**64**	**23**

VIA was positive in 64 women with biopsy report positive for CIN and CA cervix. Of which VIA was positive in 34 women with CIN I, 16 women with CIN II, 7 women with CIN III, and 7 women with squamous cell carcinoma.

VIA was negative in 23 women with biopsy report positive for CIN and CA cervix. Of which VIA was negative in 18 women with CIN I and 5 women with CIN II. VIA detected all cases of CIN III and squamous cell carcinoma.

RESULTS OF VILI

TABLE-8

VILI	Biopsy Positive for CIN/CA Cervix	Biopsy Negative for CIN/CA Cervix	Total
Positive	61	66	**127**
Negative	26	347	**373**
Total	**87**	**413**	**500**

VILI was positive in 127 women and negative in 373 women. VILI was positive in 61 women with biopsy report positive for CIN/CA cervix and 66 women with biopsy report negative for CIN/CA cervix. VILI was negative in 26 women with biopsy report positive for CIN/CA cervix and 347 women with biopsy report negative for CIN/CA cervix.

VILI vs BIOPSY

TABLE-9

Biopsy	**VILI Positive**	**VILI Negative**
CIN I	33	19
CIN II	16	05
CIN III	06	01
Squamous Cell Carcinoma	06	01
Total	**61**	**26**

VILI was positive in 61 women with biopsy report positive for CIN and CA cervix. Of which VILI was positive in 33 women with CIN I, 16 women with CIN II, 6 women with CIN III, and 6 women with squamous cell carcinoma.

VILI was negative in 26 women with biopsy report positive for CIN and CA cervix. Of which VILI was negative in 19 women with CIN I, 5 women with CIN II, 1 women with CIN III and 1 women with squamous cell carcinoma.

PARITY vs VIA and VILI

TABLE-10

Parity	No. of Women	VIA Positive	VILI Positive
1	40	02	03
2	290	54	51
3	117	42	42
4	33	23	18
> 5	20	13	13
Total	**500**	**134**	**127**

As the parity increases VIA and VILI positivity increases.

MARRIED YEARS DURATION VS VIA AND VILI

TABLE-11

Married Years Duration	No. of Women	VIA Positive	VILI Positive
03-10	168	13	14
11-20	229	59	64
21-30	84	48	38
31-40	16	11	08
> 40	03	03	03
Total	**500**	**134**	**127**

As the married years duration increases VIA and VILI positivity increases

PAP SMEAR GRADING

TABLE-12

Grade	**No. of Women**
I (Normal)	222
II (Inflammatory)	200
III (CIN-I)	56
IV (CIN-II & III)	22
V (SCC)	---
Total	**500**

Pap smear study revealed 222 women with normal cytology (Grade I), 200 women had inflammatory smear (Grade II), CIN I (Grade III) in 56 women, CIN II and III (Grade IV) in 22 women.

COLPOSCOPIC FINDINGS

TABLE-13

Grade	**No. of Women**
Normal	356
I	88
II	42
III	14
Total	**500**

A detailed colposcopic examination was done in 500 women. 356 women had normal colposcopic findings. 144 women had abnormal colposcopic findings, of this 88 women had grade I lesions, 42 women had grade II lesions, 14 women had grade III lesions.

COLPOSCOPY DIRECTED BIOPSY CERVIX

TABLE-14

Biopsy Findings	**No. of Women**
Biopsy not taken	356
Normal	29
Chronic cervicitis	28
CIN I	52
CIN II	21
CIN III	07
Squamous cell carcinoma	07
Total	**500**

Colposcopy directed biopsy was not taken in 356 women with normal colposcopic findings. Colposcopy directed biopsy was taken in 144 women with abnormal colposcopic findings. Of these histology was normal in 29 women, 28 women had chronic cervicitis, CIN I was seen in 52 women, CIN II in 21 women, CIN III in 7 women and squamous cell carcinoma in 7 women.

DISCUSSION

The concept of screening has been defined as the search for unrecognized disease or defect by means of rapidly applied tests, examination or other procedures in apparently healthy individual. Today screening is considered a preventive care function and a logical extension of health care. The basic purpose of screening is to sort out from a large group of apparently healthy persons those likely to have the diseases and to bring those who are apparently abnormal under medical supervision and treatment.

The case detection, control of disease, research and education are the 4 main uses of the screening programme. A mass screening when backed up by suitable treatment reduces the duration of illness or alters its final outcome.

Selective screening is more productive, for example cancer cervix tends to occur relatively less often in the upper socio economic groups. Therefore screening of cancer cervix in the lower socio economic groups will increase the yield of more cases. Acceptability and repeatability depending on the technique, observer variation, subject variation and errors are to be taken into account in mass campaigns.

AGE AND PARITY

MEAN AGE OF WOMEN

Our study	- 33.11 years
Kasper et al.,	- 32.5 years
Kenneth Francus	- 33.25 years
Dunn	- 27 years

TABLE-15

Mean age of the women in biopsy negative group was 31.6 %

Mean age of the women in biopsy positive group was 40.2 %

P value < 0.001 hence highly statistically significant.

Based on a study in Eden Hospital Medical College, Calcutta by Roy Chowdry, 1975, cancer cervix is common in lower age group. In India 40% were between 36- 40 years and 50% married below 16 years with early onset of sexual activity. In our study 40% women were between 31 - 40 years.

He also points out that cancer cervix is common in multi para (95%). In our study out of 87 women diagnosed as dysplasia none were para 1, 22 women were para 2, 65 women were more than para 3.

SOCIO ECONOMIC STATUS

According to two cases – control studies carried out in Columbia and Spain it was found that cancer cervix is more common in women of low socioeconomic status than women of high socio economic status. The reasons being sexual behavior of men particularly contact with sex workers and HPV infection. The women of high socio-economic status have other risk factors like smoking and oral contraceptive pill use.

In our study all women belong to socio economic status IV and V.

MARRIED YEARS DURATION

TABLE-16

Biopsy	No. of Women	Mean Married Years duration
Negative for CIN/CA cervix	413	13.59
Positive for CIN/CA cervix	87	23.31

Mean married years duration in biopsy negative individual was 13.59 years

Mean married years duration in biopsy positive individual was 23.31 years

P value < 0.001 hence highly statistically significant

VIA vs BIOPSY

TABLE-17

VIA	Biopsy Positive for CIN/CA Cervix	Biopsy Negative for CIN/CA Cervix	Total
Positive	64	70	**134**
Negative	23	343	**366**
Total	**87**	**413**	**500**

Sensitivity = 73.56%

Specificity = 83.05%

Positive Predictive Value (PPV) = 47.76%

Negative Predictive Value (NPV) = 93.72%

Diagnostic Accuracy = 81.4%

% of False Positive = 16.94%

% of False Negative = 26.43%

SENSITIVITY, SPECIFICITY, PPV, NPV OF VIA BY VARIOUS STUDIES

TABLE-18

Study	Year	Sensitivity	Specificity	PPV	NPV
El-Shalakany AH et al.,	2008	90.9%	94.6%	43.5%	99.6%
Arbyn M et al.,	2008	83%	85%		
Muwonge R et al.,	2007	81.3%	87.3%		
Elit L et al.,	2006	82.9%	88.6%		
De Vuyst H et al.,	2005	73.3%	80%		
Sankaranarayanan R et al.,	2004	76.8%	85.5%		
Our Study	2008	73.56%	83.05%	47.76%	93.72%

Our study showed sensitivity of about 73.56% which is comparable with that of De Vuyst H et al., 2005 and Sankaranarayanan R et al., 2004 whose study showed sensitivity of about 73.3% and 76.8% respectively. The sensitivity shown by Elit L et al., 2006, Muwonge R et al., 2007, Arbyn M et al., 2008, El-Shalakany AH et al., 2008, is some what higher when compared to our study.

Our study showed specificity of about 83.05% which is comparable with that of De Vuyst H et al., 2005, Sankaranarayanan R et al., 2004 and Arbyn M et al., 2008, whose study showed specificity of about 80%, 85.5%, 85% respectively. The specificity shown by Elit L et al., 2006, Muwonge R et al., 2007, is some what higher when compared to our study.

VILI vs BIOPSY

TABLE-19

VILI	Biopsy Positive for CIN/CA Cervix	Biopsy Negative for CIN/CA Cervix	Total
Positive	61	66	**127**
Negative	26	347	**373**
Total	**87**	**413**	**500**

Sensitivity = 70.11%

Specificity = 84.02%

Positive Predictive Value (PPV) = 48.03%

Negative Predictive Value (NPV) = 93.03%

Diagnostic Accuracy = 81.6%

% of False Positive = 15.98%

% of False Negative = 29.88%

SENSITIVITY, SPECIFICITY, PPV, NPV OF VILI BY VARIOUS STUDIES

TABLE-20

Study	Year	Sensitivity	Specificity	PPV	NPV
El-Shalakany AH et al.,	2008	97.7%	94.6%	46.2%	99.9%
Arbyn M et al.,	2008	93%	85%		
Muwonge R et al.,	2007	91.5%	86.9%		
Sangwa Lugoma G et al.,	2006	68.3%	76.2%		
Shastri SS et al.,	2005	75%	84%		
Sankaranarayanan R et al.,	2003	87.2%	84.7%		
Our Study	2008	70.11%	84.02%	48.03%	93.03%

Our study showed sensitivity of about 70.11% which is comparable with that of Sangwa Lugoma G et al., 2006 Shastri SS et al., 2005 whose study showed sensitivity of about 68.3% and 75% respectively. The sensitivity shown by Sankaranarayanan R et al., 2003, Muwonge R et al., 2007, Arbyn M et al., 2008, El-Shalakany AH et al., 2008, is some what higher when compared to our study.

Our study showed specificity of about 84.02% which is comparable with that of Sankaranarayanan R et al., 2004, Shastri SS et al., 2005, Muwonge R et al., 2007, Arbyn M et al., 2008, whose study showed specificity of about 84.7%, 84%, 86.9%, 85% respectively. The specificity shown by El-Shalakany AH et al., 2008 is some what higher when compared to our study.

PAP SMEAR vs BIOPSY

TABLE-21

Pap Smear	Biopsy Positive for CIN/CA Cervix	Biopsy Negative for CIN/ CA Cervix	Total
Positive	69	9	**78**
Negative	18	404	**422**
Total	**87**	**413**	**500**

Sensitivity = 79.31%

Specificity = 97.82%

Positive Predictive Value (PPV) = 88.46%

Negative Predictive Value (NPV) = 95.73%

Diagnostic Accuracy = 94.6%

% of False Positive = 2.17%

% of False Negative = 20.6%

SENSITIVITY, SPECIFICITY, PPV, NPV OF PAP SMEAR BY VARIOUS STUDIES

TABLE-22

Study	Year	Sensitivity	Specificity	PPV	NPV
El-Shalakany AH et al.,	2008	22.7%	97.6%	41.7%	96.6%
Arbyn M et al.,	2008	57%	98.6%		
Sodhani P et al.,	2006	91.4%	86.6%		
Elit L et al	2006	88.6%	98.5%	51.7%	99.8%
Sangwa Lugoma G et al.,	2006	31-72%	94-99%		
Shastri SS et al.,	2005	57%	98.6%		
Sankaranarayanan R et al.,	2003	81.9%	87.8%		
Our Study	2008	79.31%	97.82%	88.46%	95.73%

Our study showed sensitivity of about 79.31% which is comparable with that of Sankaranarayanan R et al., 2003, whose study showed sensitivity of about 81.9%.

Our study showed specificity of about 97.82% which is comparable with that of , Shastri SS et al., 2005, Sangwa Lugoma G et al., 2006, Elit L et al., 2006, Arbyn M et al., 2008, El-Shalakany AH et al., 2008 whose study showed specificity of about 98.6%, 94-99%, 98.5%, 98.6%, and 97.6% respectively.

COMPARING THE SENSITIVITY AND SPECIFICITY OF VIA, VILI, PAP SMEAR IN THE DETECTION OF PREINVASIVE LESIONS AND INVASIVE CARCINOMA OF CERVIX

TABLE-23

Screening Method	Sensitivity	Specificity	Percentage of False Positive
VIA	73.56%	83.05%	16.94%
VILI	70.11%	84.02%	15.98%
Pap Smear	79.31%	97.82%	2.17%

In our study, sensitivity of VIA (73.56%) and VILI (70.11%) is almost similar to pap smear (79.31%) but the specificity of pap smear (97.82%) is some what high compared to VIA (83.05%) and VILI (84.02%).

Hence VIA and VILI has similar sensitivity to pap smear but with lower specificity in the detection of pre invasive lesions of cervix. This is associated with a high number of false positive rates. The observed high number of false positive results of VIA and VILI may lead to high rates of referral and may increase the rates of treatment which may translate to higher costs. On the other hand high detection rate of VIA and VILI for high grade pre-malignant lesions may prevent malignancies at a low cost.

CORRELATION OF VIA, VILI, PAP SMEAR, AND COLPOSCOPY WITH COLPOSCOPY DIRECTED BIOPSY IN THE DETECTION OF CIN AND INVASIVE CARCINOMA IN 144 CASES

TABLE-24

Type of Lesion	**Colposcopy**	**Colposcopy Directed Biopsy**	**VIA**	**VILI**	**Pap Smear**
CIN	137	80	57	55	62
Invasive Carcinoma	7	7	7	6	7
Total	**144**	**87**	**64**	**61**	**69**

Colposcopic findings were abnormal in 144 women. Colposcopic examination detected 137 women with CIN and 7 women with invasive carcinoma. Colposcopy directed biopsy was taken in 144 women. Biopsy confirmed 80 women with CIN and 7 women with invasive carcinoma. Of this VIA was positive in 57 women with CIN and 7 women with invasive carcinoma, VILI was positive in 55 women with CIN and 6 women with invasive carcinoma and pap smear was positive in 62 women with CIN and 7 women with invasive carcinoma.

VIA failed to detect 5 women with CIN, VILI failed to detect 7 women with CIN when compared to pap smear. VIA detected all women with invasive carcinoma where as VILI failed to detect one women with invasive carcinoma when compared to pap smear.

SUMMARY

The study was conducted on 500 patients attending the gynaecology OPD of

GOVERNMENT RSRM LYING IN HOSPITAL – CHENNAI during a period of two year (2006-08). All women were married from reproductive age group to post menopausal age group, maximum between 20 – 40 years. Parity varies from primipara to multipara. All women belong to low socio economic class. Most of the women presented with more than one complaint, maximum being white discharge. Mean married year's duration was 15 years. Most of them were married at the age of 16 – 18 years with early onset of sexual activity.

All these women were subjected to down staging, Pap smear, VIA, VILI and colposcopic examination. Colposcopic examination was abnormal in 144 women. They were subjected to colposcopy directed biopsy. Biopsy detected 80 women with CIN and 7 women with invasive carcinoma. Of this VIA, VILI, Pap smear detected 57, 55, 62 women with CIN and 7, 6, 7 women with invasive carcinoma respectively.

The sensitivity, specificity of VIA, VILI, Pap smear are as follows

Screening Method	**Sensitivity**	**Specificity**
VIA	73.56%	83.05%
VILI	70.11%	84.02%
Pap Smear	79.31%	97.82%

CONCLUSION

Visual inspection of the cervix after application of acetic acid and Lugol's Iodine can be used as one of the low cost screening tool in the detection of pre invasive lesions of cervix. VIA and VILI has a similar sensitivity to cervical cytology but with lower specificity. This is associated with high number of false positive rate leading to high rates of referral. On the other hand high detection rate of VIA and VILI for high grade pre malignant lesions may prevent malignancy at a low cost. Hence VIA, VILI can be under taken as a feasible method of screening in cervical cancer in countries where access to cytopathology is limited.

The sensitivity of cytology increased significantly when combined with VIA and VILI.

Visual inspection can be performed easily by trained paramedical workers in rural areas for early referral to higher centers. This may ultimately bring down the severity of CIN and Cancer cervix in the long run.

The higher sensitivity, accuracy, low cost, easy applicability and immediate results make VIA, VILI a useful screening test in developing countries like India. This must go hand in hand with increasing the awareness of women about cervical cancer screening programmes.

BIBLIOGRAPHY

1) Frisch LE, Milner FH, Ferris DG. Naked-eye inspection of the cervix after acetic acid application may improve the predictive value of negative cytologic screening. J Fam Pract. 1995 Apr;40(4):327.
2) Belinson JL, Pretorius RG, Zhang WH, Wu LY, Qiao YL, Elson P. Cervical cancer screening by simple visual inspection after acetic acid. Obstet Gynecol. 2002 Mar; 99(3):517-8.
3) Mandelblatt JS, Lawrence WF, Gaffikin L, Limpahayom KK, Lumbiganon P, Warakamin S, King J, Yi B, Ringers P, Blumenthal PD. Costs and benefits of different strategies to screen for cervical cancer in less-developed countries. J Natl Cancer Inst. 2002 Oct 2;94(19):1469-83.
4) Tayyeb R, Khawaja NP, Malik N. Comparison of visual inspection of cervix and Pap smear for cervical cancer screening. J Coll Physicians Surg Pak. 2003 Apr;13(4): 201-3.
5) Basu PS, Sankaranarayanan R, Mandal R, Roy C, Das P, Choudhury D, Bhattacharya D, Chatterjee R, Dutta K, Barik S, Tsu V, Chakrabarti RN, Siddiqi M; Calcutta Cervical Cancer Early Detection Group. Visual inspection with acetic acid and cytology in the early detection of cervical neoplasia in Kolkata, India. Int J Gynecol Cancer. 2003 Sep-Oct; 13(5):626-32.
6) Ferreccio C, Bratti MC, Sherman ME, Herrero R, Wacholder S, Hildesheim A, Burk RD, Hutchinson M, Alfaro M, Greenberg MD, Morales J, Rodriguez AC, Schussler J, Eklund C, Marshall G, Schiffman M. A comparison of single and combined visual, cytologic, and virologic tests as screening strategies in a region at high risk of

cervical cancer. Cancer Epidemiol Biomarkers Prev. 2003 Sep;12(9):815-23.

7) Sankaranarayanan R, Wesley R, Thara S, Dhakad N, Chandralekha B, Sebastian P, Chithrathara K, Parkin DM, Nair MK. Test characteristics of visual inspection with 4% acetic acid (VIA) and Lugol's iodine (VILI) in cervical cancer screening in Kerala, India. Int J Cancer. 2003 Sep 1;106(3):404-8.

8) Bhatla N, Mukhopadhyay A, Joshi S, Kumar A, Kriplani A, Pandey RM, Verma K. Visual inspection for cervical cancer screening: evaluation by doctor versus paramedical worker. Indian J Cancer. 2004 Jan-Mar; 41(1):32-6.

9) Denny L, Kuhn L, Pollack A, Wright TC Jr. Direct visual inspection for cervical cancer screening: an analysis of factors influencing test performance. Cancer. 2004 Nov 15;101(10):2365; author reply 2366.

10) Sankaranarayanan R, Shastri SS, Basu P, Mahé C, Mandal R, Amin G, Roy C, Muwonge R, Goswami S, Das P, Chinoy R, Frappart L, Patil S, Choudhury D, Mukherjee T, Dinshaw K. The role of low-level magnification in visual inspection with acetic acid for the early detection of cervical neoplasia. Cancer Detect Prev. 2004;28(5):345-51.

11) Ghaemmaghami F, Behtash N, Modares Gilani M, Mousavi A, Marjani M, Moghimi R. Visual inspection with acetic acid as a feasible screening test for cervical neoplasia in Iran. Int J Gynecol Cancer. 2004 May-Jun;14(3):465-9.

12) Sankaranarayanan R, Basu P, Wesley RS, Mahe C, Keita N, Mbalawa CC, Sharma R, Dolo A, Shastri SS, Nacoulma M, Nayama M, Somanathan T, Lucas E, Muwonge R, Frappart L, Parkin DM; IARC Multicentre Study Group on Cervical Cancer Early Detection. Accuracy of visual screening for cervical neoplasia: Results from an IARC

multicentre study in India and Africa. Int J Cancer. 2004 Jul 20;110(6):907-13.

13) Pérez-Cruz E, Winkler JL, Velasco-Mondragón E, Salmerón-Castro J, García F, Davis-Tsu V, Escandón-Romero C, Hernández-Avila M. [Screening and follow-up for cervical cancer prevention in rural Mexico using visual inspection]. Salud Publica Mex. 2005 Jan-Feb;47(1):39-48.

14) Bragança JF, Derchain SF, Sarian LO, Messias da Silva SM, Labatte S, Zeferino LC. Aided visual inspection with acetic acid (VIA) and HPV detection as optional screening tools for cervical cancer and its precursor lesions. Clin Exp Obstet Gynecol. 2005;32(4):225-9.

15) De Vuyst H, Claeys P, Njiru S, Muchiri L, Steyaert S, De Sutter P, Van Marck E, Bwayo J, Temmerman M. Comparison of pap smear, visual inspection with acetic acid, human papillomavirus DNA-PCR testing and cervicography. Int J Gynaecol Obstet. 2005 May;89(2):120-6.

16) Wu S, Meng L, Wang S, Ma D. A comparison of four screening methods for cervical neoplasia. Int J Gynaecol Obstet. 2005 Nov;91(2):189-93. Epub 2005 Sep 23.

17) Shastri SS, Dinshaw K, Amin G, Goswami S, Patil S, Chinoy R, Kane S, Kelkar R, Muwonge R, Mahé C, Ajit D, Sankaranarayanan R. Concurrent evaluation of visual, cytological and HPV testing as screening methods for the early detection of cervical neoplasia in Mumbai, India. Bull World Health Organ. 2005 Mar;83(3):186-94. Epub 2005 Mar 16.

18) Syrjänen K, Naud P, Derchain S, Roteli-Martins C, Longatto-Filho A, Tatti S, Branca M, Erzen M, Hammes LS, Matos J, Gontijo R, Sarian L, Braganca J, Arlindo FC, Maeda MY, Lörincz A, Dores GB, Costa S, Syrjänen S. Comparing PAP smear

cytology, aided visual inspection, screening colposcopy, cervicography and HPV testing as optional screening tools in Latin America. Study design and baseline data of the LAMS study. Anticancer Res. 2005 Sep-Oct;25(5):3469-80.

19) Valdespino VM, Valdespino VE. Cervical cancer screening: state of the art. Curr Opin Obstet Gynecol. 2006 Feb;18(1):35-40.

20) Elit L, Baigal G, Tan J, Munkhtaivan A. Assessment of 2 cervical screening methods in Mongolia: cervical cytology and visual inspection with acetic acid. J Low Genit Tract Dis. 2006 Apr;10(2):83-8.

21) Denny L, Quinn M, Sankaranarayanan R. Screening for cervical cancer in developing countries. Vaccine. 2006 Aug 31;24 Suppl 3:S3/71-7.

22) Sangwa-Lugoma G, Mahmud S, Nasr SH, Liaras J, Kayembe PK, Tozin RR, Drouin P, Lorincz A, Ferenczy A, Franco EL. Visual inspection as a cervical cancer screening method in a primary health care setting in Africa. Int J Cancer. 2006 Sep 15;119(6):1389-95.

23) Sodhani P, Gupta S, Sharma JK, Parashari A, Halder K, Singh V, Sehgal A. Test characteristics of various screening modalities for cervical cancer: a feasibility study to develop an alternative strategy for resource-limited settings. Cytopathology. 2006 Dec;17(6):348-52.

24) Muwonge R, Walter SD, Wesley RS, Basu P, Shastri SS, Thara S, Mbalawa CG, Sankaranarayanan R; IARC Multicentre Study Group on Cervical Cancer Early Detection. Assessing the gain in diagnostic performance when two visual inspection methods are combined for cervical cancer prevention. J Med Screen. 2007;14(3): 144-50.

25) Arbyn M, Bergeron C, Klinkhamer P, Martin-Hirsch P, Siebers AG, Bulten J. Liquid compared with conventional cervical cytology: a systematic review and meta-analysis. J Fam Pract. 2008 Apr;57(4):preceding 220. Obstet Gynecol. 2008 Jan; 111(1):2-3.

26) Dhaubhadel P, Vaidya A, Choudhary P. Early detection of precursors of cervical cancer with cervical cytology and visual inspection of cervix with acetic Acid. JNMA J Nepal Med Assoc. 2008 Apr-Jun;47(170):71-6.

27) El-Shalakany AH, Saeed MM, Abdel-Aal MR, El-Nakeeb AH, Noseirat N, Ayyad SB, El Din ZS. Direct visual inspection of the cervix with Lugol iodine for the detection of premalignant lesionsJ Low Genit Tract Dis. 2008 Jul;12(3):193-8.

28) Jun JK, Choi KS, Jung KW, Lee HY, Gapstur SM, Park EC, Yoo KY. Effectiveness of an organized cervical cancer screening program in Korea: Results from a cohort study. Int J Cancer. 2008 Sep 10.

29) Davis-Dao CA, Cremer M, Felix J, Cortessis VK. Effect of cervicitis on visual inspection with acetic acid. J Low Genit Tract Dis. 2008 Oct;12(4):282-6.

30) Arbyn M, Sankaranarayanan R, Muwonge R, Keita N, Dolo A, Mbalawa CG, Nouhou H, Sakande B, Wesley R, Somanathan T, Sharma A, Shastri S, Basu P. Pooled analysis of the accuracy of five cervical cancer screening tests assessed in eleven studies in Africa and India. Int J Cancer. 2008 Jul 1;123(1):153-60.

31) Sankaranarayanan R, Thara S, Esmy PO, Basu P. Cervical cancer: screening and therapeutic perspectives. Med Princ Pract. 2008;17(5):351-64. Epub 2008 Aug 6.

PROFORMA

SERIAL NO.:

NAME

AGE

OP NO.

ADDRESS

RELIGION

OCCUPATION / INCOME

SOCIO ECONOMIC STATUS

MENSTRUAL HISTORY

AGE AT MENARCHE

CYCLE LENGTH

DURATION OF FLOW

AMOUNT OF FLOW

AGE AT MENOPAUSE

MARITAL HISTORY

MARRIED SINCE YEARS

AGE OF MARRIAGE

SEXUAL HISTORY

AGE AT FIRST COITUS

FREQUENCY OF COITUS

NUMBER OF PARTNERS

OBSTETRIC HISTORY

PARITY
LAST CHILD BIRTH
LACTATION

PERSONAL HISTORY

PID
OC PILL INTAKE
RT / CT / IMMUNO – SUPPRESSION
TB / DRUG INTAKE

COMPLAINTS

CLINICAL FINDINGS
DOWN STAGING
PAP SMEAR
VIA
VILI
COLPOSCOPY
COLPOSCOPY DIRECTED BIOPSY CERVIX
IMPRESSION

MASTER CHART

S. No.	Name	IP No.	Age	Mrd Yrs	SEC	Pty	PC	S/E	Pap	VIA	VILI	Colp	Biop
1	Priya	21147	22	4	4	1	WD	N	I	Neg	Neg	N	NB
2	Kavitha	20460	25	6	4	2	WD	N	II	Neg	Neg	N	NB
3	Selvi	21146	28	10	4	2	LBA	EC	II	Neg	Neg	N	NB
4	Muniyammal	5709	27	15	5	3	WD	EC	II	Pos	Pos	I	CC
5	Ruth	22113	30	14	5	2	WD	N	III	Pos	Pos	II	CIN I
6	Lakshmi	14829	33	15	4	2	LBA	N	I	Neg	Neg	N	NB
7	Vasanthi	21071	30	12	4	1	LBA	N	I	Neg	Neg	N	NB
8	Uma	11522	30	17	4	1	WD	N	II	Neg	Neg	N	NB
9	Govindammal	14185	35	20	5	3	WD	E	III	Pos	Neg	II	CIN I
10	Malarvizhi	22215	37	20	5	4	WD	E	II	Pos	Pos	I	CC
11	Vani	8667	24	6	4	2	LAP	N	II	Pos	Neg	N	NB
12	Brinda	21285	29	10	4	2	LBA	N	II	Neg	Neg	N	NB
13	Ramani	8938	28	9	4	2	LBA	N	II	Neg	Neg	I	N
14	Devi	21285	42	26	5	2	WD	E	IV	Pos	Pos	II	CIN II
15	Geetha	8938	40	20	5	2	WD	E	IV	Neg	Pos	II	CIN II
16	Vadivu	21217	58	40	5	2	PCB	E	IV	Pos	Pos	III	SCC
17	Kanniammal	9217	42	24	5	2	PCB	E	IV	Pos	Pos	III	SCC
18	Sivabharathi	9250	30	16	4	3	WD	E	II	Neg	Pos	II	CIN I
19	Savitha	20627	40	20	4	3	WD	E	III	Pos	Pos	II	CIN I
20	Jamuna	23021	35	18	4	6	LBA	N	I	Neg	Neg	N	NB
21	Rajeswari	19350	40	21	4	2	LAP	N	I	Neg	Neg	N	NB
22	Umavathi	19351	29	13	4	3	LAP	OCT	II	Neg	Neg	N	NB
23	Begam	17824	60	44	5	8	WD	E	IV	Pos	Pos	II	SCC

S. No.	Name	IP No.	Age	Mrd Yrs	SEC	Pty	PC	S/E	Pap	VIA	VILI	Colp	Biop
24	Sarala	24567	32	16	5	3	WD	H	II	Pos	Pos	I	CIN I
25	Renuka	23360	25	11	4	3	LBA	E	I	Neg	Neg	N	NB
26	Murugammal	24720	45	27	4	2	WD	N	II	Neg	Neg	N	NB
27	Padma	22522	32	15	4	3	LAP	N	I	Neg	Neg	N	NB
28	Meharun	25474	38	21	5	5	WD	E	IV	Pos	Pos	III	CIN II
29	Rabitha	8527	55	40	4	4	LBA	N	I	Neg	Neg	N	NB
30	Selvarani	27193	36	17	4	2	LBA	N	I	Neg	Neg	N	NB
31	Badma	26071	23	5	4	1	WD	N	I	Neg	Neg	N	NB
32	Banu	27050	26	9	4	2	LAP	E	II	Neg	Pos	N	NB
33	Geetha	12641	28	10	4	2	LAP	H	II	Neg	Neg	N	NB
34	Rajee	28362	32	14	4	2	WD	N	II	Neg	Neg	N	NB
35	Rathna	29611	30	12	4	2	IMB	P	II	Neg	Pos	N	NB
36	Dhanam	29388	48	30	5	6	WD	U	III	Pos	Pos	II	SCC
37	Suriya	21971	32	14	4	3	WD	H	III	Neg	Neg	I	CC
38	Vasanthi	28355	45	23	4	2	LAP	N	I	Neg	Neg	N	NB
39	Mari	29501	25	7	4	2	LAP	N	I	Neg	Neg	N	NB
40	Saranya	30849	22	4	4	1	WD	N	I	Neg	Neg	N	NB
41	Suganya	30981	24	5	4	2	WD	E	II	Neg	Neg	N	NB
42	Marieswari	30193	30	12	4	3	LBA	C	III	Neg	Neg	I	CINI
43	Vijayalakshmi	31146	23	7	4	2	LBA	E	I	Neg	Neg	N	NB
44	Rani	29080	29	10	4	2	WD	C	II	Neg	Neg	N	NB
45	Pavithra	31247	26	9	4	2	WD	EC	II	Pos	Neg	N	NB
46	Hema	28562	30	9	4	2	LAP	N	II	Neg	Neg	N	NB

S. No.	Name	IP No.	Age	Mrd Yrs	SEC	Pty	PC	S/E	Pap	VIA	VILI	Colp	Biop
47	Kiliamma	31401	30	14	4	3	WD	E	II	Neg	Pos	I	CIN I
48	Anjali	27388	40	26	5	4	WD	E	III	Pos	Neg	I	CIN II
49	Ramani	32536	23	6	4	2	LBA	E	II	Neg	Neg	N	NB
50	Rukmani	30287	38	21	5	3	WD	H	III	Pos	Neg	I	CIN I
51	Shanthi	33724	37	20	4	2	LBA	N	I	Neg	Neg	N	NB
52	Rajakumari	28717	30	13	4	3	LAP	N	I	Neg	Neg	N	NB
53	Kaveri	26767	45	30	4	2	LBA	N	I	Neg	Neg	N	NB
54	Sarkunam	30808	40	21	5	4	WD	H	IV	Pos	Pos	III	CIN III
55	Lakshmi	40779	46	21	4	4	LBA	OCT	II	Pos	Neg	N	NB
56	Rani	40614	28	12	4	3	WD	E	II	Neg	Neg	N	NB
57	Manjula	40613	26	12	4	2	WD	C	II	Pos	Neg	N	NB
58	Lakshmi	40616	45	30	4	2	WD	E	II	Pos	Pos	I	CC
59	Mangalam	40560	25	8	4	2	WD	N	I	Neg	Neg	N	NB
60	Revathi	39129	27	11	4	3	LBA	N	I	Neg	Neg	N	NB
61	Kumutha	40739	29	12	4	3	LAP	N	I	Neg	Neg	N	NB
62	Vani	40763	26	9	4	2	WD	N	I	Neg	Neg	N	NB
63	Jeenath	40771	26	8	4	2	WD	N	I	Neg	Neg	N	NB
64	Mohana	40057	30	16	4	4	WD	OCT	III	Pos	Neg	I	CIN I
65	Mari	40756	30	14	4	2	WD	N	II	Pos	Pos	N	NB
66	Geetha	40785	32	16	4	2	LBA	N	I	Neg	Neg	N	NB
67	Muthu	40794	29	12	4	2	WD	N	II	Neg	Neg	N	NB
68	Kanchana	40778	28	10	4	2	LAP	E	II	Pos	Pos	N	NB
69	Usha	40798	26	6	4	2	LAP	EC	II	Neg	Neg	N	NB

S. No.	Name	IP No.	Age	Mrd Yrs	SEC	Pty	PC	S/E	Pap	VIA	VILI	Colp	Biop
70	Valliammal	41666	24	17	4	2	WD	C	I	Neg	Neg	N	NB
71	Suseela	41662	26	7	4	2	WD	N	I	Neg	Neg	N	NB
72	Muniyammal	41637	30	22	4	4	WD	E	III	Pos	Pos	II	CIN III
73	Durka	41650	30	12	4	2	WD	E	II	Pos	Pos	N	NB
74	Glory	41627	38	22	4	2	LBA	N	I	Neg	Neg	N	NB
75	Valarmathi	41663	30	13	4	2	WD	N	I	Neg	Neg	N	NB
76	Rekha	31048	28	10	4	1	WD	C	II	Neg	Neg	N	NB
77	Rahmath Bi	31136	60	45	5	6	WD	E	IV	Pos	Pos	III	SCC
78	Latha	31064	30	10	4	1	LAP	N	I	Neg	Neg	N	NB
79	Rajeswari	31708	40	26	4	3	WD	E	II	Pos	Pos	N	NB
80	Malika	32118	30	13	4	2	LBA	N	I	Neg	Neg	N	NB
81	Samanthi	32106	31	17	4	2	LBA	N	II	Neg	Neg	N	NB
82	Kamala	32113	24	6	4	2	WD	N	I	Neg	Neg	N	NB
83	Roja	30156	26	6	4	1	LAP	E	I	Neg	Neg	N	NB
84	Kaveri	41870	32	17	4	2	WD	E	III	Pos	Pos	I	CC
85	Dhanalakshmi	38923	40	32	4	3	WD	N	I	Neg	Neg	N	NB
86	Pavazha	42022	28	7	4	1	PCB	P	II	Neg	Neg	N	NB
87	Tamimunisha	42007	36	20	5	4	WD	E	II	Neg	Pos	I	CC
88	Ammu	31091	38	20	5	3	PCB	U	IV	Pos	Neg	III	SCC
89	Jyothi	42000	25	8	4	2	LAP	N	I	Neg	Neg	N	NB
90	Alamalu	33567	27	11	4	2	LAP	N	I	Neg	Neg	N	NB
91	Durga	40690	30	13	4	2	WD	N	II	Neg	Neg	N	NB
92	Meena	20011	25	6	4	2	LAP	N	II	Neg	Neg	N	NB

S. No.	Name	IP No.	Age	Mrd Yrs	SEC	Pty	PC	S/E	Pap	VIA	VILI	Colp	Biop
93	Oorvasi	42304	22	4	4	1	WD	C	I	Neg	Neg	N	NB
94	Kanaga	42132	29	10	4	2	IMB	P	II	Neg	Neg	N	NB
95	Amsa	42324	35	17	4	2	WD	E	III	Pos	Pos	I	CIN I
96	vijayalakshmi	42303	26	9	4	2	LAP	N	I	Neg	Neg	N	NB
97	Panchavarnam	42328	27	10	4	2	WD	N	I	Neg	Neg	N	NB
98	vijaya	46542	33	16	5	2	WD	E	II	Pos	Pos	N	NB
99	Seetha	42325	25	9	4	2	LAP	N	I	Neg	Neg	N	NB
100	Ambika	15798	29	12	4	3	LAP	N	I	Neg	Neg	N	NB
101	Jayanthi	15795	28	12	4	3	WD	E	II	Pos	Pos	N	NB
102	Komala	11755	26	10	4	2	LAP	N	I	Neg	Neg	N	NB
103	Jamuna	42375	32	15	4	2	WD	EC	II	Neg	Neg	N	NB
104	Parameswari	42309	34	18	4	3	WD	E	I	Neg	Neg	N	NB
105	Vanitha	42377	26	10	4	2	WD	E	II	Pos	Pos	I	CC
106	Kowsalya	42427	35	18	4	2	LAP	H	I	Neg	Neg	N	NB
107	Malika	42424	50	33	5	4	WD	N	IV	Pos	Pos	III	CIN II
108	Uma	42413	37	20	4	2	LAP	N	I	Neg	Neg	N	NB
109	Sujatha	42404	38	21	4	2	WD	N	II	Neg	Neg	N	NB
110	Lakshmi	32012	25	8	4	2	WD	N	I	Neg	Neg	N	NB
111	Govindammal	41614	28	10	4	2	WD	E	II	Pos	Pos	I	CC
112	Ammala	40806	28	12	4	2	WD	N	I	Neg	Neg	N	NB
113	Ponmathi	40827	29	12	4	3	WD	E	I	Neg	Neg	N	NB
114	Badmavathi	41689	33	15	4	2	WD	EC	II	Neg	Pos	N	NB
115	Devamani	42841	40	23	5	6	LAP	C	IV	Pos	Pos	II	CIN II

S. No.	Name	IP No.	Age	Mrd Yrs	SEC	Pty	PC	S/E	Pap	VIA	VILI	Colp	Biop
116	Gunasundari	41806	29	12	4	3	LAP	H	II	Neg	Neg	N	NB
117	Amudha	42646	25	7	4	2	WD	N	I	Neg	Neg	N	NB
118	Murugammal	32361	45	27	4	2	WD	N	II	Neg	Neg	N	NB
119	Padma	31668	32	15	4	3	LAP	N	I	Neg	Neg	N	NB
120	Gajalakshmi	42421	34	17	5	3	LAP	OCT	II	Pos	Neg	N	NB
121	Rani	41740	38	22	4	3	LAP	N	I	Neg	Neg	N	NB
122	Neelu	31688	30	13	4	2	WD	N	II	Neg	Neg	N	NB
123	Sariba	42634	39	22	4	2	WD	E	III	Pos	Pos	I	CC
124	Ameena	42834	44	28	4	3	WD	N	III	Pos	Neg	II	CIN II
125	Valli	42624	25	8	4	2	WD	N	I	Neg	Neg	N	NB
126	Sasikala	42515	32	16	4	2	LAP	N	II	Neg	Neg	N	NB
127	Mary	34228	36	20	5	4	LAP	OCT	IV	Pos	Pos	II	CIN II
128	Athilakshmi	35002	33	16	4	2	WD	E	II	Neg	Neg	N	NB
129	Vani	34929	36	9	4	2	WD	N	I	Neg	Neg	N	NB
130	Lakshmi	34262	35	18	4	3	LAP	C	II	Pos	Pos	N	NB
131	Govindalakshmi	32598	29	12	4	4	LAP	N	II	Neg	Neg	N	NB
132	Janaki	35708	26	8	4	2	WD	N	I	Neg	Neg	N	NB
133	Rasulbee	34211	27	11	4	2	LAP	N	I	Neg	Neg	N	NB
134	Kalaiselvi	34957	32	15	4	3	WD	E	II	Pos	Pos	N	NB
135	Allirani	36028	45	28	4	3	WD	N	I	Neg	Neg	N	NB
136	Maheswari	35412	45	27	4	3	LAP	OCT	II	Neg	Neg	N	NB
137	Maragatham	31634	42	25	4	2	LBA	H	II	Neg	Pos	N	NB
138	Sasikala	29132	36	19	4	2	WD	N	I	Neg	Neg	N	NB

S. No.	Name	IP No.	Age	Mrd Yrs	SEC	Pty	PC	S/E	Pap	VIA	VILI	Colp	Biop

139	Rani	33989	55	38	5	5	WD	N	IV	Pos	Neg	III	CIN III
140	Mallika	35682	29	7	4	2	WD	N	I	Neg	Neg	N	NB
141	Amaravathi	36477	45	27	4	3	LAP	E	II	Pos	Pos	I	CC
142	Vasanthi	35811	49	31	4	4	LAP	N	II	Neg	Neg	N	NB
143	Nirmala	36509	27	10	4	2	WD	N	I	Neg	Neg	N	NB
144	Ponnammal	34383	30	12	4	3	WD	H	II	Neg	Neg	N	NB
145	Parimala	31702	37	20	4	2	WD	E	II	Neg	Pos	I	CIN I
146	Shanmugavalli	37635	28	11	4	2	LAP	N	I	Neg	Neg	N	NB
147	Jasmine	33984	30	12	4	3	LAP	N	II	Neg	Neg	N	NB
148	Meena	37111	33	15	4	2	WD	E	II	Pos	Neg	N	NB
149	Suguna	38693	25	8	4	1	WD	N	I	Neg	Neg	N	NB
150	Kasiammal	37187	35	17	4	2	LAP	N	II	Neg	Neg	N	NB
151	Revathi	39530	28	10	4	2	WD	N	I	Neg	Neg	N	NB
152	Saraswathi	37924	26	9	4	2	WD	N	I	Neg	Neg	N	NB
153	Puspa	35469	28	11	4	3	LAP	N	II	Neg	Neg	N	NB
154	Dhanalakshmi	38465	45	27	5	6	WD	E	III	Neg	Pos	II	CIN II
155	Devi	38573	35	8	4	2	WD	N	I	Neg	Neg	N	NB
156	Nirmala	39238	31	14	4	3	LAP	N	I	Neg	Neg	N	NB
157	Muniammal	35118	27	10	4	2	WD	N	I	Neg	Neg	N	NB
158	Valliammal	38979	39	23	5	4	LAP	N	III	Pos	Neg	I	CIN I
159	Jayanthi	34309	26	9	4	2	LAP	N	I	Neg	Neg	N	NB
160	Nirmala	34635	29	12	4	3	LAP	N	II	Neg	Neg	N	NB
161	Meenatchi	34183	25	8	4	2	WD	N	I	Neg	Neg	N	NB

S. No.	Name	IP No.	Age	Mrd Yrs	SEC	Pty	PC	S/E	Pap	VIA	VILI	Colp	Biop
162	Durga	41470	28	11	4	3	WD	E	II	Pos	Pos	I	CC

163	Saraswathi	41424	32	16	4	2	WD	E	I	Neg	Neg	N	NB
164	Kamatchi	40487	28	11	4	1	LAP	N	I	Neg	Neg	N	NB
165	Nagammal	40894	45	30	5	3	LAP	N	II	Pos	Pos	I	CC
166	Vimala	30115	31	15	4	3	WD	N	I	Neg	Neg	N	NB
167	Gowri	40479	25	8	4	2	WD	E	I	Neg	Neg	N	NB
168	Lakshmi	40453	35	15	4	3	WD	H	II	Neg	Pos	N	NB
169	Varalakshmi	38966	40	21	4	2	WD	N	I	Neg	Neg	N	NB
170	Inbarani	411374	48	33	4	3	WD	E	III	Pos	Pos	I	CC
171	Vijaya	40629	24	8	4	2	WD	C	I	Neg	Neg	N	NB
172	Fathima	39681	52	35	4	3	WD	N	III	Pos	Neg	II	CIN II
173	Samburanam	40468	26	9	4	2	LAP	N	I	Neg	Neg	N	NB
174	Valli	27497	34	18	4	2	WD	E	I	Neg	Neg	N	NB
175	Jyothi	37187	28	10	4	1	LAP	N	I	Neg	Neg	N	NB
176	Sengala	39530	35	18	4	3	WD	E	II	Pos	Pos	N	NB
177	Palanimamma l	37924	31	14	4	2	WD	N	I	Neg	Neg	N	NB
178	Kamatchi	35469	46	30	4	1	WD	N	II	Pos	Neg	N	NB
179	Akila	38475	30	11	4	2	LAP	N	I	Neg	Neg	N	NB
180	Lakshmi	38573	28	10	4	2	WD	E	II	Neg	Neg	N	NB
181	Sagayamary	39238	32	15	5	3	PCB	E	III	Pos	Pos	I	CIN I
182	Kirandevi	35118	35	18	4	3	WD	E	II	Pos	Neg	I	CC
183	Nagammaal	38979	50	32	4	3	LAP	N	I	Neg	Neg	N	NB
184	Susila	34039	42	24	4	6	WD	N	IV	Pos	Pos	II	CIN II

S. No.	Name	IP No.	Age	Mrd Yrs	SEC	Pty	PC	S/E	Pap	VIA	VILI	Colp	Biop
185	Vijaya	34635	37	20	4	4	WD	OCT	I	Neg	Neg	N	NB
186	Kavitha	34183	27	9	4	2	WD	N	II	Neg	Neg	N	NB

187	Suvathi	41470	27	10	4	3	LAP	N	I	Neg	Neg	N	NB
188	Lalitha	41424	29	11	4	4	WD	E	II	Pos	Pos	I	CC
189	Kamatchi	40487	35	17	4	2	WD	E	III	Pos	Neg	I	N
190	Varalakshmi	40894	26	10	4	2	WD	E	I	Neg	Neg	N	NB
191	Suganthi	30115	26	8	4	3	WD	N	I	Neg	Neg	N	NB
192	Kanagavalli	40479	44	26	5	5	WD	E	II	Neg	Neg	I	CIN I
193	Shanthi	40452	40	24	4	3	WD	E	I	Neg	Neg	N	NB
194	Saratha	38966	38	20	4	2	LAP	N	I	Neg	Neg	N	NB
195	Nasima	41374	35	20	5	3	WD	N	II	Pos	Pos	N	NB
196	Kumutha	40629	32	15	4	3	LAP	N	I	Neg	Neg	N	NB
197	Savithri	39681	35	20	4	2	IMB	E	III	Pos	Pos	I	CIN I
198	Girija	40468	28	10	4	3	WD	N	I	Neg	Neg	N	NB
199	Pappa	27497	26	8	4	2	WD	N	I	Neg	Neg	N	NB
200	Punithavathi	27442	43	25	4	3	WD	E	II	Pos	Pos	I	CIN I
201	Suganthi	41236	34	18	4	2	LAP	N	I	Neg	Neg	N	NB
202	Sasikala	41502	31	14	4	2	WD	N	I	Neg	Neg	N	NB
203	Mala	41413	28	10	4	2	WD	N	I	Neg	Neg	N	NB
204	Kamala	34873	38	21	5	5	PCB	E	III	Neg	Pos	II	CIN II
205	Selvi	31972	26	8	4	2	LAP	N	I	Neg	Neg	N	NB
206	Amutha	31960	37	19	4	1	WD	N	I	Neg	Neg	N	NB
207	Manjula	40165	28	11	4	2	WD	N	II	Neg	Neg	N	NB

S. No.	Name	IP No.	Age	Mrd Yrs	SEC	Pty	PC	S/E	Pap	VIA	VILI	Colp	Biop
208	Karpagam	40334	30	11	4	2	LAP	N	II	Neg	Neg	N	NB
209	Kavitha	13176	27	7	4	1	WD	N	I	Neg	Neg	N	NB
210	Vijaya	41838	35	16	4	3	WD	E	III	Neg	Neg	I	CIN I
211	Rani	46132	32	14	4	3	WD	E	II	Neg	Pos	N	NB
212	Jayasudha	45302	26	8	4	2	LAP	N	I	Neg	Neg	N	NB
213	Dhatchayani	37820	39	20	4	3	WD	N	II	Neg	Neg	N	NB
214	Kalapana	42037	28	10	4	2	WD	E	I	Neg	Neg	N	NB
215	Sublakshmi	41945	42	22	4	2	WD	E	II	Neg	Neg	N	NB
216	Lakshmi	43792	38	20	4	3	LAP	N	II	Neg	Neg	N	NB
217	Fathima	36619	37	18	4	2	WD	C	I	Neg	Neg	N	NB
218	Jaya	36655	40	25	5	4	WD	E	IV	Pos	Pos	II	CIN II
219	Devaki	34309	29	12	4	2	WD	E	II	Neg	Neg	N	NB
220	Vijaya	35248	42	25	4	3	WD	H	II	Pos	Pos	I	CIN I
221	Padma	47134	25	6	4	2	WD	N	I	Neg	Neg	N	NB
222	Valli	44923	34	17	4	2	WD	C	I	Neg	Neg	N	NB
223	Uma	47515	26	7	4	2	WD	N	I	Neg	Neg	N	NB
224	Karpagam	38202	32	17	5	2	WD	E	III	Pos	Neg	II	CIN II
225	Ambika	39139	30	13	4	2	LAP	N	I	Neg	Neg	N	NB
226	Roopa	30185	22	4	4	1	LAP	N	I	Neg	Neg	N	NB
227	Suseela	36989	36	19	4	2	WD	E	II	Neg	Neg	N	NB
228	Sangeetha	45630	28	9	4	2	PCB	E	II	Neg	Pos	N	NB
229	Archana	24737	23	3	4	1	LBA	N	I	Neg	Neg	N	NB
230	Ayesha	43208	33	18	4	3	WD	E	II	Neg	Neg	N	NB

S. No.	Name	IP No.	Age	Mrd Yrs	SEC	Pty	PC	S/E	Pap	VIA	VILI	Colp	Biop
231	Rubela	42366	44	25	4	4	WD	N	III	Pos	Neg	II	CIN I
232	Punitha	40588	29	9	4	2	LBA	N	I	Neg	Neg	N	NB
233	Ganga	42603	21	3	4	1	WD	N	I	Neg	Neg	N	NB
234	Seetha	41118	27	9	4	2	WD	E	II	Neg	Neg	N	NB
235	Rajakumari	12917	25	8	4	1	LBA	N	I	Neg	Neg	N	NB
236	Arya	13382	32	15	4	2	LAP	N	II	Neg	Neg	N	NB
237	Varalakshmi	9396	24	6	4	2	WD	N	I	Neg	Neg	N	NB
238	Jyothi	12196	40	26	4	2	WD	H	III	Pos	Pos	II	CIN II
239	Rajathi	11625	37	20	4	2	LBA	N	I	Neg	Neg	N	NB
240	Indrani	42500	34	17	4	3	WD	E	II	Neg	Neg	N	NB
241	Maheswari	13116	30	12	4	2	LBA	EC	I	Neg	Neg	N	NB
242	Parimala	36231	25	4	4	2	WD	N	I	Neg	Neg	N	NB
243	Vijaya	33724	35	15	4	2	WD	N	II	Pos	Neg	N	NB
244	Vedavalli	15373	37	20	4	2	WD	E	II	Neg	Neg	N	NB
245	Manjula	24590	22	4	4	2	WD	N	I	Neg	Neg	N	NB
246	Kothai	26469	30	12	4	2	WD	N	II	Neg	Neg	N	NB
247	Savithri	17113	38	23	5	3	WD	H	III	Pos	Pos	II	CIN I
248	Athilakshmi	17099	45	30	5	3	WD	N	II	Pos	Pos	N	NB
249	Latha	18007	35	15	4	2	WD	E	II	Pos	Neg	N	NB
250	Prema	17101	32	12	4	2	WD	E	II	Neg	Neg	N	NB
251	Karpagam	16206	30	15	5	3	WD	H	III	Pos	Pos	I	CIN I
252	Kannagi	17598	34	15	4	1	WD	N	II	Neg	Pos	N	NB
253	Sundari	12865	40	25	4	2	WD	E	II	Pos	Neg	II	CIN I

S. No.	Name	IP No.	Age	Mrd Yrs	SEC	Pty	PC	S/E	Pap	VIA	VILI	Colp	Biop

254	Deepa	12522	25	6	4	2	LAP	N	I	Neg	Neg	N	NB
255	Ranjitham	17922	36	20	4	2	LAP	N	II	Neg	Neg	N	NB
256	Pramila	38988	35	17	4	2	WD	N	II	Neg	Neg	N	NB
257	Kumutha	18228	31	11	4	1	LBA	N	I	Neg	Neg	N	NB
258	Meena	16686	33	12	4	2	WD	E	II	Pos	Pos	N	NB
259	Mehrunisha	38511	29	12	4	2	WD	E	II	Pos	Neg	N	NB
260	Murugammal	19049	30	13	4	2	WD	N	II	Neg	Neg	N	NB
261	Santhi	25699	43	25	4	2	LBA	N	III	Pos	Pos	I	N
262	Senthamarai	17052	28	8	4	2	LAP	N	I	Neg	Neg	N	NB
263	Athilakshmi	19385	51	35	4	2	LAP	N	III	Pos	Pos	I	CIN I
264	Rukmani	19722	40	22	4	2	WD	E	II	Pos	Pos	I	N
265	Annalakshmi	18454	25	7	4	1	WD	E	I	Neg	Neg	N	NB
266	Salamma	19317	55	40	5	3	WD	E	IV	Pos	Pos	III	SCC
267	Yasmin	19786	35	20	4	3	WD	N	I	Neg	Neg	N	NB
268	Rajeswari	20460	32	17	4	2	LAP	H	II	Pos	Pos	N	NB
269	Mary	21124	45	26	4	4	WD	H	II	Pos	Pos	I	CC
270	Sundari	21129	30	14	4	2	LAP	H	II	Neg	Neg	N	NB
271	Bavani	20640	32	15	4	2	WD	H	II	Pos	Pos	I	N
272	Priya	17959	24	5	4	1	LAP	N	I	Neg	Neg	N	NB
273	Ramya	21315	27	8	4	2	WD	EC	I	Neg	Neg	N	NB
274	Aarthy	17430	23	5	4	2	WD	N	I	Neg	Neg	N	NB
275	Annammal	29833	60	42	5	5	WD	N	III	Pos	Pos	I	CIN II
276	Santhanalakshmi	18733	36	15	4	3	IMB	H	II	Neg	Pos	II	CIN I

S. No.	Name	IP No.	Age	Mrd Yrs	SEC	Pty	PC	S/E	Pap	VIA	VILI	Colp	Biop
277	Agavalli	18235	28	8	4	2	LAP	N	I	Neg	Neg	N	NB

278	Mumthaj	11764	36	19	4	2	WD	H	II	Neg	Neg	N	NB
279	Geetha	16454	30	9	4	2	WD	N	I	Neg	Neg	N	NB
280	Komala	11517	26	5	4	1	WD	H	II	Pos	Pos	N	NB
281	Fathima	16527	33	11	4	3	WD	N	I	Neg	Neg	N	NB
282	Santhi	16494	41	25	4	2	WD	H	III	Neg	Neg	I	CIN I
283	Kalyani	27328	45	30	4	3	IMB	H	III	Neg	Pos	I	CIN I
284	Chellamai	13844	51	35	4	3	WD	N	II	Pos	Neg	II	CIN I
285	Periyanayagi	22972	35	19	4	2	LAP	EC	II	Pos	Pos	I	N
286	Sujatha	24332	42	26	4	2	WD	N	II	Pos	Pos	I	N
287	Puvitha	25534	29	15	4	2	WD	N	II	Neg	Neg	N	NB
288	Rajeswari	23178	28	10	4	2	WD	N	I	Neg	Neg	N	NB
289	Jaya	22473	40	25	4	2	LBA	N	II	Pos	Pos	I	CC
290	Lakshmi	23289	22	4	4	2	WD	N	II	Pos	Neg	N	NB
291	Kala	22473	40	15	4	3	WD	N	III	Pos	Pos	II	CIN I
292	Selvi	28152	31	9	4	2	WD	EC	II	Neg	Neg	N	NB
293	Chitra	23952	25	7	4	2	WD	N	I	Neg	Neg	N	NB
294	Pooja	21045	26	7	4	2	WD	E	I	Neg	Neg	N	NB
295	Bhoopathi	44793	24	6	4	2	LAP	E	I	Neg	Neg	N	NB
296	Dhatchayini	22337	25	6	4	2	WD	E	II	Pos	Neg	N	NB
297	Vanitha	23579	27	10	4	2	WD	E	III	Pos	Pos	I	CIN I
298	Deepa	23370	24	7	4	2	WD	N	II	Neg	Pos	N	NB
299	Meenatchi	23479	32	4	4	2	WD	E	I	Neg	Neg	N	NB

S. No.	**Name**	**IP No.**	**Age**	**Mrd Yrs**	**SEC**	**Pty**	**PC**	**S/E**	**Pap**	**VIA**	**VILI**	**Colp**	**Biop**
300	Padmavathi	23501	30	15	4	3	WD	N	III	Neg	Pos	II	CIN II
301	Ravanammal	22560	30	14	4	2	LAP	EC	II	Neg	Neg	N	NB

302	Lavanya	42891	28	7	4	2	LBA	EC	I	Neg	Neg	N	NB
303	Malliga	42851	36	13	4	2	WD	N	I	Neg	Neg	N	NB
304	Ruth	42628	42	24	4	2	WD	E	II	Pos	Pos	I	CC
305	Fathima be	24200	35	20	4	2	WD	E	II	Neg	Neg	N	NB
306	Parvathi	45843	44	30	4	2	LBA	N	I	Neg	Neg	N	NB
307	Banu	24341	26	9	4	2	WD	C	I	Neg	Neg	N	NB
308	Kannagi	41749	30	13	4	3	LAP	E	I	Neg	Neg	N	NB
309	Pachiamma	46569	47	27	4	3	LBA	H	IV	Pos	Pos	III	CIN III
310	Uma	46615	26	8	4	3	WD	N	I	Neg	Neg	N	NB
311	Kalaivani	43094	28	7	4	1	WD	E	I	Neg	Neg	N	NB
312	Lakshmi	44366	26	7	4	2	WD	N	I	Neg	Neg	N	NB
313	Rani	42863	37	20	4	3	WD	E	III	Neg	Pos	II	CIN II
314	Thulasi	25734	37	20	5	4	WD	E	III	Pos	Pos	II	CIN I
315	Selvi	42526	35	15	4	2	LBA	N	I	Neg	Neg	N	NB
316	Shanthi	44175	33	20	5	3	WD	N	I	Neg	Neg	N	NB
317	Devi	41946	25	7	4	2	WD	N	I	Neg	Neg	N	NB
318	Nagarathinam	43944	46	30	5	4	WD	C	III	Pos	Pos	I	CIN I
319	Jagatha	30659	32	15	4	4	LBA	H	II	Pos	Pos	I	N
320	Santha	16921	36	13	4	2	LBA	N	I	Neg	Neg	N	NB
321	Puspa	43094	26	8	4	2	WD	N	I	Neg	Neg	N	NB
322	Saraswathi	39643	30	9	4	1	WD	N	I	Neg	Neg	N	NB

S. No.	Name	IP No.	Age	Mrd Yrs	SEC	Pty	PC	S/E	Pap	VIA	VILI	Colp	Biop
323	Prema	43053	30	13	4	2	WD	H	III	Pos	Pos	I	CIN I
324	Mariamma	38081	32	18	4	2	WD	N	I	Neg	Neg	N	NB
325	Fathima	31625	23	5	44	2	WD	N	I	Neg	Neg	N	NB

326	Prabavathi	43220	30	14	4	3	WD	E	II	Pos	Pos	I	CC
327	Meenatchi	43160	30	15	4	2	WD	N	I	Neg	Neg	N	NB
328	Shanthi	43168	37	20	4	3	WD	N	II	Neg	Neg	I	CIN I
329	Prabhavathi	14653	30	14	4	3	WD	N	I	Neg	Neg	N	NB
330	Arasi	42325	36	15	4	2	LBA	N	I	Neg	Neg	N	NB
331	Suseela	42240	35	15	4	4	WD	E	II	Pos	Pos	I	N
332	Geetha	43014	30	12	4	2	WD	N	I	Neg	Neg	N	NB
333	Muthulakshmi	42309	57	40	4	5	WD	E	IV	Pos	Pos	II	CIN II
334	Komala	45001	23	4	4	1	WD	N	I	Neg	Neg	N	NB
335	Lakshmi	42000	50	30	4	6	WD	U	IV	Pos	Pos	III	CIN III
336	Kasdoori	31091	36	20	4	2	WD	N	I	Neg	Neg	N	NB
337	Malathi	42023	36	19	4	2	WD	E	I	Neg	Neg	N	NB
338	Anitha	41806	30	8	4	2	WD	H	III	Pos	Pos	I	CC
339	Marry	30901	42	17	4	3	WD	H	III	Pos	Pos	II	CIN I
340	Lalitha	42200	56	20	4	2	WD	N	I	Neg	Neg	N	NB
341	Nagavalli	15609	38	17	4	2	WD	N	II	Pos	Pos	N	NB
342	Rajakumari	41627	32	13	4	3	LAP	N	I	Neg	Neg	N	NB
343	Gandhimathi	40051	48	26	4	3	WD	E	I	Neg	Neg	N	NB
344	Devi	41662	28	12	4	2	WD	C	II	Neg	Neg	N	NB
345	Valli	41374	35	19	4	3	WD	N	II	Pos	Pos	I	CIN I

S. No.	Name	IP No.	Age	Mrd Yrs	SEC	Pty	PC	S/E	Pap	VIA	VILI	Colp	Biop
346	Vijaya	19175	33	16	4	2	WD	E	II	Pos	Pos	N	NB
347	Malarvizhi	20011	50	30	4	3	WD	N	I	Neg	Neg	N	NB
348	Ragavi	40559	25	7	4	2	LAP	N	I	Neg	Neg	N	NB
349	Bakkiam	45590	23	4	4	2	WD	N	I	Neg	Neg	N	NB

350	Mary	43269	43	23	4	2	WD	E	II	Pos	Neg	N	NB
351	Thilagavathi	33087	30	14	4	3	WD	E	III	Neg	Pos	II	CIN I
352	Kala	38750	25	8	4	2	WD	C	I	Neg	Neg	N	NB
353	Kavitha	38021	28	11	4	3	WD	N	II	Neg	Neg	N	NB
354	Devi	37953	30	11	4	2	LAP	N	I	Neg	Neg	N	NB
355	Maha	38634	35	15	4	3	LBA	EC	I	Neg	Neg	N	NB
356	Padma	38082	40	24	4	2	LBA	N	I	Neg	Neg	N	NB
357	Sathya	22653	50	30	4	3	WD	OCT	III	Neg	Neg	I	CIN I
358	Amala	14978	35	19	4	3	LAP	N	II	Neg	Neg	N	NB
359	Saroja	13627	35	13	4	2	WD	P	I	Neg	Neg	N	NB
360	Suguna	38292	32	16	5	5	WD	OCT	II	Neg	Pos	N	NB
361	Chandra	32305	40	22	4	4	LBA	E	II	Pos	Pos	I	CC
362	Anjali	14024	26	8	4	2	LAP	N	I	Neg	Neg	N	NB
363	Muthulakshmi	12660	38	16	4	2	LAP	N	I	Neg	Neg	N	NB
364	Maheswari	12152	45	25	4	4	WD	N	III	Pos	Pos	I	CIN I
365	Kasthuri	12193	40	18	4	3	LAP	OCT	I	Neg	Neg	N	NB
366	Meera	10969	35	10	4	2	WD	N	I	Neg	Neg	N	NB
367	Amaravathi	32370	45	27	4	3	WD	E	II	Pos	Pos	I	CC
368	Victoria	26033	47	30	4	4	LAP	EC	II	Neg	Neg	N	NB

S. No.	Name	IP No.	Age	Mrd Yrs	SEC	Pty	PC	S/E	Pap	VIA	VILI	Colp	Biop
369	Marry	27879	45	25	5	4	WD	H	III	Pos	Neg	II	CIN II
370	Sasikala	10600	26	6	4	2	WD	N	I	Neg	Neg	N	NB
371	Reena	19486	32	15	4	2	WD	E	I	Neg	Neg	N	NB
372	Saraswathi	27164	40	25	4	2	WD	N	II	Neg	Neg	N	NB
373	Savithri	27151	40	24	4	3	PCB	E	IV	Pos	Pos	II	CIN II

374	Latha	22598	24	4	4	2	WD	N	I	Neg	Neg	N	NB
375	Rani	17982	28	9	4	2	WD	C	I	Neg	Neg	N	NB
376	Sujatha	22964	38	20	5	2	LBA	E	II	Neg	Neg	N	NB
377	Padmavathi	20332	27	8	4	2	WD	N	I	Neg	Neg	N	NB
378	Malliga	22182	29	10	4	1	IMB	P	II	Neg	Neg	N	NB
379	Egavalli	41565	37	20	4	3	WD	E	II	Pos	Pos	N	NB
380	Meenatchi	20561	28	11	4	2	WD	N	I	Neg	Neg	N	NB
381	Thanam	28108	48	30	4	3	LAP	OCT	II	Pos	Neg	N	NB
382	Jeyanthi	20180	33	12	5	3	WD	E	I	Neg	Neg	N	NB
383	Meena	14172	36	20	4	2	WD	H	II	Pos	Pos	I	CC
384	Thilothama	40817	26	8	4	2	WD	N	I	Neg	Neg	N	NB
385	Suguna	40823	37	22	4	3	LAP	N	III	Pos	Pos	I	CIN I
386	Radha	41234	28	10	4	2	LAP	N	I	Neg	Neg	N	NB
387	Sumathi	41362	30	12	5	3	WD	E	II	Pos	Pos	I	CC
388	Yasodha	18200	30	13	4	3	WD	N	I	Neg	Neg	N	NB
389	Kasthoori	23322	40	21	4	1	WD	N	I	Neg	Neg	N	NB
390	Komala	21254	22	6	4	2	WD	E	II	Neg	Pos	N	NB
391	Latha	23952	36	20	4	2	LBA	C	II	Neg	Neg	N	NB

S. No.	Name	IP No.	Age	Mrd Yrs	SEC	Pty	PC	S/E	Pap	VIA	VILI	Colp	Biop
392	Prabavathi	22641	42	17	5	2	LAP	N	I	Neg	Neg	N	NB
393	Chitra	26057	25	10	5	3	WD	N	I	Neg	Neg	N	NB
394	Rajeswari	25732	34	18	5	3	WD	H	II	Neg	Neg	I	CIN I
395	Nirmala	26273	48	30	5	6	WD	E	II	Neg	Neg	N	NB
396	Mangai	25919	46	30	4	2	LBA	EC	I	Neg	Neg	N	NB
397	Varalakshmi	22903	40	20	5	2	WD	E	II	Pos	Pos	II	CC
398	Parveen	26761	35	19	5	4	WD	EC	II	Neg	Neg	N	NB
399	Kumari	21231	25	4	4	2	WD	N	I	Neg	Neg	N	NB
400	Jaya	25784	40	25	4	2	LAP	N	II	Neg	Neg	N	NB
401	Jayamma	22598	35	10	4	2	LAP	N	I	Neg	Neg	N	NB
402	Kumari	12440	24	7	4	2	WD	N	I	Neg	Neg	N	NB
403	Sarasu	24132	27	6	4	2	LBA	C	II	Neg	Neg	N	NB
404	Parameswari	27330	40	21	4	2	LBA	EC	I	Neg	Neg	N	NB
405	Kalai	22646	42	23	5	5	WD	E	III	Pos	Neg	II	CIN I
406	Ramani	13387	38	12	4	2	WD	N	II	Neg	Pos	II	CIN I
407	Nagammaal	27591	28	8	4	2	LAP	N	II	Pos	Neg	N	NB
408	Shantha	37591	35	17	4	3	LBA	EC	I	Neg	Neg	N	NB
409	Stella	37850	28	6	4	2	WD	N	I	Neg	Neg	N	NB
410	Thilagavathi	31856	38	20	4	3	WD	E	II	Neg	Neg	N	NB
411	Rajeswari	37953	45	30	5	5	WD	E	IV	Pos	Pos	III	CIN III
412	Indhira	37903	23	5	4	2	WD	N	I	Neg	Neg	N	NB
413	Shanthi	37512	27	8	4	2	WD	E	I	Neg	Neg	N	NB
414	Rajee	37706	45	24	4	2	WD	N	II	Neg	Neg	N	NB

S. No.	Name	IP No.	Age	Mrd Yrs	SEC	Pty	PC	S/E	Pap	VIA	VILI	Colp	Biop

415	Valli	37656	55	40	5	4	WD	U	IV	Pos	Pos	III	CIN III
416	Marry	37710	36	16	4	4	WD	N	II	Neg	Neg	N	NB
417	Nageswari	37645	32	15	4	2	WD	P	II	Neg	Pos	N	NB
418	Vani	38225	38	20	5	5	WD	E	III	Pos	Pos	I	CC
419	Selvi	38272	28	10	4	3	WD	E	II	Neg	Neg	N	NB
420	Thanam	16002	30	14	4	2	LAP	N	I	Neg	Neg	N	NB
421	Kasthoori	17780	35	15	4	3	WD	H	II	Neg	Neg	N	NB
422	Ellammal	25425	23	4	4	1	LAP	N	I	Neg	Neg	N	NB
423	Nirmala	22564	40	25	4	3	WD	N	I	Neg	Neg	N	NB
424	Lakshmi	13922	30	11	4	2	LBA	N	I	Neg	Neg	N	NB
425	Uma	25194	26	5	4	1	WD	N	II	Neg	Neg	N	NB
426	Vasanthi	28563	34	18	4	2	WD	E	III	Pos	Pos	II	CIN I
427	Shanthi	12211	30	12	4	2	LAP	N	II	Pos	Neg	N	NB
428	Ranganayagi	23975	32	10	4	3	LBA	N	II	Neg	Pos	N	NB
429	Thagira	23897	30	12	4	2	WD	N	II	Neg	Neg	N	NB
430	Gayathri	23695	28	10	4	2	WD	N	II	Pos	Neg	N	NB
431	Jamuna	32305	32	15	4	2	WD	N	I	Neg	Neg	N	NB
432	Shanthi	27164	26	6	4	2	LAP	N	I	Neg	Neg	N	NB
433	Vijaya	22964	42	23	4	3	WD	N	III	Pos	Neg	II	CIN I
434	Mahalakshmi	30659	30	15	4	2	WD	N	II	Pos	Neg	N	NB
435	Roja	39675	21	3	4	1	LAP	N	II	Neg	Neg	N	NB
436	Shankari	33478	38	22	5	5	WD	E	II	Neg	Neg	N	NB
437	Latha	32170	38	20	4	2	WD	E	III	Pos	Pos	I	CIN I

S. No.	Name	IP No.	Age	Mrd Yrs	SEC	Pty	PC	S/E	Pap	VIA	VILI	Colp	Biop
438	Selvi	32790	39	23	4	3	WD	C	II	Pos	Neg	N	NB
439	Vijayalakshmi	23367	30	9	4	2	LAP	N	I	Neg	Neg	N	NB
440	Yasodha	25693	30	8	4	2	LAP	E	II	Neg	Neg	N	NB
441	Allirani	17998	40	23	4	3	WD	EC	II	Pos	Pos	I	CC
442	Jyothi	23121	23	6	4	2	WD	E	I	Neg	Neg	N	NB
443	Mohana	24753	30	14	4	2	LAP	N	II	Neg	Neg	N	NB
444	Malar	43213	28	10	4	2	WD	E	II	Neg	Neg	N	NB
445	Thangam	42569	28	10	4	2	LAP	N	I	Neg	Neg	N	NB
446	Maha	43511	33	15	4	2	WD	E	II	Neg	Neg	N	NB
447	Nabeesha	28977	25	6	4	1	WD	N	II	Neg	Pos	N	NB
448	Chellammal	32667	28	10	5	2	WD	P	II	Neg	Neg	N	NB
449	Vanaja	46677	38	18	4	2	WD	N	II	Neg	Pos	II	CIN I
450	Beevi	45534	28	10	4	4	LBA	H	II	Pos	Pos	I	CC
451	kannagi	40700	28	7	4	1	WD	E	I	Neg	Neg	N	NB
452	Shanthi	41872	35	15	5	2	LBA	N	I	Neg	Neg	N	NB
453	Poovitha	32413	24	7	4	2	WD	N	II	Neg	Neg	N	NB
454	Kanchana	37834	28	10	4	2	WD	N	II	Neg	Pos	N	NB
455	Anandavalli	22561	28	13	5	4	WD	H	III	Pos	Neg	I	CIN I
456	Rani	46611	28	9	4	2	WD	C	I	Neg	Neg	N	NB
457	Parimala	23423	25	4	4	2	WD	N	I	Neg	Neg	N	NB
458	Kalai	43268	28	7	4	1	WD	E	I	Neg	Neg	N	NB
459	Manju	38750	25	7	4	1	WD	N	I	Neg	Neg	N	NB
460	Kavitha	37953	22	4	4	1	LBA	N	II	Neg	Neg	N	NB

S. No.	Name	IP No.	Age	Mrd Yrs	SEC	Pty	PC	S/E	Pap	VIA	VILI	Colp	Biop

461	Amirtham	42981	34	17	4	2	WD	E	III	Pos	Neg	II	CIN I
462	Lavanya	23844	24	7	4	2	LAP	EC	I	Neg	Neg	N	NB
463	Rathna	23178	26	10	4	2	LBA	N	I	Neg	Neg	N	NB
464	Pratheepa	43273	32	14	5	2	WD	E	II	Neg	Neg	N	NB
465	Malarkodi	29722	33	15	4	2	WD	E	II	Neg	Pos	N	NB
466	Ramya	20466	27	10	4	2	WD	N	I	Neg	Neg	N	NB
467	Savitha	22141	35	19	4	4	WD	EC	II	Neg	Neg	N	NB
468	Kumari	21937	25	4	4	2	WD	N	I	Neg	Neg	N	NB
469	Jayamma	17114	35	10	4	2	LAP	N	I	Neg	Neg	N	NB
470	Kanaga	17598	34	18	5	3	WD	H	III	Neg	Pos	I	CIN I
471	Latha	28988	24	4	4	2	WD	N	I	Neg	Neg	N	NB
472	Padmavathi	29049	27	8	4	2	LAP	N	I	Neg	Neg	N	NB
473	Rajathi	45637	37	20	4	2	LBA	N	I	Neg	Neg	N	NB
474	Indrani	40833	34	17	4	3	WD	E	II	Neg	Neg	N	NB
475	Maheswari	22178	30	12	4	2	LBA	EC	I	Neg	Neg	N	NB
476	Parimala	42356	25	4	4	2	WD	N	I	Neg	Neg	N	NB
477	Vijaya	20647	35	15	4	2	WD	N	II	Neg	Neg	N	NB
478	Vedavalli	38512	37	20	4	2	WD	E	II	Neg	Neg	I	N
479	Manjula	28988	22	4	4	2	WD	N	I	Neg	Neg	I	N
480	Kothai	37922	30	12	4	2	WD	N	II	Neg	Neg	I	N
482	Rabitha	31711	55	40	4	4	LBA	N	I	Neg	Neg	I	N
483	Selvarani	26469	36	17	4	2	LBA	N	I	Neg	Neg	I	N

S. No.	Name	IP No.	Age	Mrd Yrs	SEC	Pty	PC	S/E	Pap	VIA	VILI	Colp	Biop
484	Badma	22182	23	5	4	1	WD	N	I	Neg	Neg	I	N
485	Banu	20332	26	9	4	2	LAP	E	II	Neg	Neg	I	N
486	Geetha	31092	28	10	4	2	LAP	H	II	Neg	Neg	I	N
487	Rajee	45008	32	14	4	2	WD	N	II	Neg	Neg	I	N
488	Rathna	46569	30	12	4	2	IMB	P	II	Neg	Neg	I	N
489	Kala	41749	45	25	5	3	WD	N	III	Neg	Neg	III	CIN I
490	Devi	22457	29	13	4	2	WD	E	II	Neg	Pos	II	CIN I
491	Lalitha	31934	56	20	4	2	WD	N	I	Neg	Neg	I	N
492	Nagavalli	41121	38	17	4	2	WD	N	II	Neg	Neg	I	N
493	Rajakumari	40088	32	13	4	3	LAP	N	I	Neg	Neg	I	N
494	Gandhimathi	41098	48	26	4	3	WD	E	I	Neg	Neg	I	N
495	Devi	34532	28	12	4	2	WD	C	II	Neg	Neg	I	N
496	Rajathi	41338	37	20	4	2	LBA	N	I	Neg	Neg	I	N
497	Indrani	42578	34	17	4	3	WD	E	II	Neg	Neg	I	N
498	Maheswari	48923	30	12	4	2	LBA	EC	I	Neg	Neg	I	N
499	Parimala	32338	25	4	4	2	WD	N	I	Neg	Neg	I	N
500	Vijaya	35987	35	15	4	2	WD	N	II	Neg	Neg	I	N

KEY WORDS TO MASTER CHART

Mrd Yrs	**=**	**Married Years Duration**
PC	**=**	**Presenting Complaint**
Biop	**=**	**Biopsy**
Colp	**=**	**Colposcopy**
Pty	**=**	**Parity**
WD	**=**	**White Discharge**
LAP	**=**	**Lower Abdominal Pain**
LBA	**=**	**Low Backache**
IMB	**=**	**Inter Menstrual Bleed**
PCB	**=**	**Post Coital Bleed**
N	**=**	**Normal**
E	**=**	**Erosion**

EC	**=**	**Ectropion**
H	**=**	**Hypertrophy**
OCT	**=**	**Old Cervical Tear**
P	**=**	**Polyp**
U	**=**	**Ulcer**
C	**=**	**Congestion**
NB	**=**	**No Biopsy**
CC	**=**	**Chronic Cervicitis**
SCC	**=**	**Squamous Cell Carcinoma**